

**AIR EMISSION PERMIT NO. 16900013- 001  
IS ISSUED TO**

OWNER - International Malting Company LLC  
CORPORATE OPERATOR – Froedtert Malt

Froedtert Malt - Winona  
500 West 3rd Street  
Winona, Winona County, MN 55987

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):

<b>Permit Type</b>	<b>Application Date</b>
Total Facility Operating Permit	January 18, 1995

This permit authorizes the permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The permittee must comply with all the conditions of the permit. 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 as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Federal; Part 70 major/PSD synthetic minor

**Issue Date:** October 23, 2000

**Expiration:** October 23, 2005

All Title I Conditions do not expire.

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Rodney E. Massey, P.E.  
Director  
South District

for Karen A. Studders  
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.

## **FACILITY DESCRIPTION:**

This facility produces malted barley. Barley is received by truck and rail. The barley is then weighed and sent to storage. Prior to the malting process, the barley is transferred from storage to a cleaner, width grader, separator, debearder, and an aspirator. Barley is then sent to one of the three malt houses.

In the malt house the barley is soaked in water in a steep tank, and then sent to a germination box to sprout. After the barley has sprouted it is dried in a malt kiln. Sulfur is burned in the kiln to form sulfur dioxide which acts as a fungicide, bactericide, and preservative. After drying is complete the malt is transferred to storage via a bucket elevator.

Malted barley is then sent to a scale and shipped by truck or rail. Malt byproduct (sprouts and screenings dust) is loaded and shipped out by truck. Barley byproduct is loaded out in the barley receiving area and shipped out by truck or rail. Both byproduct loadouts are equipped with extendable DCL loadout spouts to reduce byproduct freefall and fugitive dust emissions.

Fabric filters and a single cyclone are used to control particulate matter and PM<sub>10</sub> from barley and malt handling processes. All other sources are uncontrolled. All fuel combustion sources are restricted to natural gas and propane.

Total barley and malt storage capacity at the facility exceeds 2.5 million bushels, and therefore the facility is a grain terminal elevator subject to 40 CFR part 60 subpart DD.

This permit is a total facility operating permit and includes the March 2000 EU 047 natural gas/propane-fired boiler installation allowed under the minor amendment provisions of Minn. R. ch. 7007.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

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

<b>Subject Item: Total Facility</b>	
<b>What to do</b>	<b>Why to do it</b>
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
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
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A and/or B, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
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
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**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

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)
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
Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and record keeping specified in the attached Fugitive Emissions Control Plan. The plan may be amended by the Permittee with the Commissioner's approval. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the Fugitive Emissions Control Plan, then the Permittee may be required by the Commissioner to amend the control plan and/or install and operate particulate matter ambient monitors.	Minn. R. 7007.0800, subp. 2
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item:** GP 001 Sulfur Pans**Associated Items:** EU 039 MH-1 Sulfur Pans (SV 004)

EU 041 MH-2 Sulfur Pans (SV 005)

EU 043 MH-3 Sulfur Pans (SV 006)

What to do	Why to do it
Sulfur Usage: The Permittee shall not burn more than 120 tons per year of sulfur in GP 001, calculated on a 12-month rolling sum basis.	Title I Condition: To avoid major source status under 40 CFR Section 52.21
Sulfur Usage Recordkeeping: by the last day of each month the Permittee shall calculate and record the following:  1. the tons of sulfur burned in GP 001 during the previous calendar month; 2. the tons of sulfur burned in GP 001 during the previous 12-month period (12-month rolling sum).  For example, by January 31st, 2000, the Permittee shall calculate and record the tons of sulfur burned in December 1999, and in the 12-month period from January 1, 1999 through December 31, 1999.	Title I Condition: To avoid major source status under 40 CFR Section 52.21

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item:** GP 002 Indirect Heating Equipment pre-1977**Associated Items:** EU 030 Main Office Space Heat Boiler

EU 031 MH-1 Space Heat Boiler

EU 033 MH-3 Space Heat Boiler

EU 059 Maintenance Space Heat Boiler

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input for each emission unit in GP 002.	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity for each emission unit in GP 002.	Minn. R. 7011.0510, subp. 2
Permitted Fuels: natural gas and propane only.	Minn. R. 7007.0800, subp. 2
Fuel Type Recordkeeping: The Permittee shall record the type of fuels combusted in each emission unit in GP 002. Records shall be entered no less frequently than semi-annually.	Minn. R. 7007.0800, subp. 4 and 5



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item:** GP 003 Indirect Heating Equipment post-1977**Associated Items:** EU 024 MH-1 Kiln Dryer

EU 032 MH-2 Space Heat Boiler

EU 036 Carmel Production Boiler

EU 037 Carmel Production Boiler

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input for each emission unit in GP 003.	Minn. R. 7011.0515, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity for each emission unit in GP 003.	Minn. R. 7011.0515, subp. 2
Permitted Fuels: natural gas and propane only.	Minn. R. 7007.0800, subp. 2
Fuel Type Recordkeeping: The Permittee shall record the type of fuels combusted in each emission unit in GP 003. Records shall be entered no less frequently than semi-annually.	Minn. R. 7007.0800, subp. 4 and 5

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item:** GP 004 Indirect Heating Equipment Subp. Dc**Associated Items:** EU 028 MH-3 Kiln Boiler 1

EU 045 MH-2 Kiln Boiler 1

EU 046 MH-2 Kiln Boiler 2

EU 047 MH-3 Kiln Boiler 2

What to do	Why to do it
Permitted Fuels: natural gas and propane only.	Minn. R. 7007.0800, subp. 2
Fuel Usage Recordkeeping: Once each month the Permittee shall record the quantity of fuels combusted in each emission unit in GP 004 during the previous month. Records may be in the form of meter readings or fuel bills.	40 CFR Section 60.48c(g) and February 20, 1992 EPA memorandum

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item: GP 005 Fabric Filter Requirements****Associated Items:** CE 001 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 002 Fabric Filter - Low Temperature, i.e., T&lt;180 Degrees F

CE 003 Fabric Filter - Low Temperature, i.e., T&lt;180 Degrees F

CE 004 Fabric Filter - Low Temperature, i.e., T&lt;180 Degrees F

CE 005 Fabric Filter - Low Temperature, i.e., T&lt;180 Degrees F

What to do	Why to do it
Operate and maintain each fabric filter in GP 005 so that each fabric filter achieves a collection efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency	Minn. R. 7007.0800, subps. 2 and 14
Operate and maintain each fabric filter in GP 005 so that each fabric filter achieves a collection efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Minn. R. 7007.0800, subps. 2 and 14
Operation and Maintenance of Fabric Filters: The Permittee shall operate and maintain each fabric filter as required by Minn. R. 7011.0075 and according to the control equipment manufacturer's specifications.	Minn. R. 7011.0075; Minn. R. 7007.0800, subp. 14
Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 8 inches of water column for each fabric filter.	Minn. R. 7007.0800, subp. 14
Visible Emissions/Pressure Drop Monitoring: Once each day of operation of any GP 005 fabric filter, the Permittee shall check the outlet of each operating fabric filter during daylight hours for any visible emissions (VEs). If inclement weather prohibits a VE check, the Permittee shall observe and record the pressure drop across each operating fabric filter. Record the time and date of each observation, whether any VEs were observed, or the pressure drop as appropriate.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4 and 5
Corrective Action: If visible emissions are observed and/or if the pressure drop is outside the permitted range specified in this subject item for any fabric filter in GP 005, the Permittee shall follow the Operation and Maintenance Plan for the fabric filter and take corrective action as soon as possible to eliminate the visible emissions and/or return the pressure drop to within the permitted range. The Permittee shall keep a record of the type and date of all corrective actions taken.	Minn. R. 7007.0800, subp. 5 and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item: GP 006 Fugitive Emission Sources - Receiving and Loadout****Associated Items:** FS 001 Truck Unloading

FS 002 DCL Malt Byproduct (Sprouts and Screenings) Loadout (EU 061)

FS 003 Rail Unloading

FS 004 DCL Barley Byproduct Loadout (EU 008)

FS 005 Malt Rail/Truck Loadout

What to do	Why to do it
Opacity: less than or equal to 5 percent opacity for fugitive emissions from rail or truck unloading, rail loading, or handling activities.	Minn. R. 7011.1005, subp. 3(A)
Opacity: less than or equal to 10 percent opacity for fugitive emissions from FS 002 truck loading.	40 CFR Section 60.302(c)(3); Minn. R. 7011.1005, subp. 3(B)
Opacity: less than or equal to 10 percent opacity for fugitive emissions from FS 004 and FS 005 truck loading.	Minn. R. 7011.1005, subp. 3(B)
The Permittee shall clean up spilled barley, malt, and malt/barley byproducts to minimize fugitive emissions to a level consistent with reasonably available control technology (RACT).	Minn. R. 7011.1005, subp. 1
Initial Performance Test: due 180 days after Permit Issuance to measure opacity of fugitive emissions from FS 002 as specified in 40 CFR Section 60.303.	40 CFR Section 60.8(a); Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before each Performance Test.	
General Performance Test (PT) Requirements:  Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.  PT Notification (written): due 30 days before each Performance Test PT Plan: due 30 days before each Performance Test PT Pre-test Meeting: due 7 days before each Performance Test PT Report: due 45 days after each Performance Test PT Report - Microfiche: due 105 days after each Performance Test	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item:** GP 007 Process Emissions Subject to Minn. R. 7011.1005**Associated Items:** SV 002 (CE 002 Barley Elevator East Baghouse; EU 005, 006, 007, 009, 049)

SV 007 (CE 004 Malt Storage East Baghouse; EU 016, 017, 053, 054)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.100 grains/dry standard cubic foot at 7000 dry standard cubic feet per minute or as specified in Minn. R. 7011.0735. This limit applies individually to each stack vent in GP 007.	Minn. R. 7011.1005, subp. 3(D)
Opacity: less than or equal to 10 percent opacity from each stack/vent in GP 007.	Minn. R. 7011.1005, subp. 3(D)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item: GP 008 Process Emissions Subject to 40 CFR part 60 subp. DD**

**Associated Items:** EU 001 West Barley Gallery  
 EU 010 Barley Width Graders  
 EU 011 Barley Length Graders  
 EU 012 Unload Scale  
 EU 013 Debearders  
 EU 014 Aspirator  
 EU 015 Debearder Jack Leg  
 EU 019 Malt Byproduct (Sprouts and Screenings) Dust Tank  
 EU 020 Sprout Transfer  
 EU 052 Needles Reclaim Jack Leg  
 EU 061 Sprouts/Screenings Dust Tank DCL Truck Loadout Spout  
 SV 001 (CE 001 Barley Elevator South Baghouse; EU 001 - 003)  
 SV 003 (CE 003 Barley Elevator West Baghouse; EU 004, 010 - 015, 048, 050, and 052)  
 SV 008 (CE 005 Malt Storage West Baghouse; EU 018 - 020, 055, 056, 058, 060, and 061)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.01 grains/dry standard cubic foot for process emissions from SV 001, SV 003, and SV 008.	40 CFR Section 60.302(b)(1)
Opacity: less than or equal to 0 percent opacity for process emissions from SV 001, SV 003, and SV 008.	40 CFR Section 60.302(b)(2)
EU 001, 010, 011, 012, 013, 014, 015, 019, 020, and 052 Fugitive Emissions Opacity: less than or equal to 0 percent opacity	40 CFR Section 60.302(c)(2)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

**Subject Item:** GP 009 Malt Houses 1, 2, & 3**Associated Items:** SV 004 Malt House 1 (EU 024, 038, & 039)

SV 005 Malt House 2 (EU 040 &amp; 041)

SV 006 Malt House 3 (EU 042 &amp; 043)

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 meet the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies separately to each stack/vent in GP 009.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity for each stack/vent in GP 009.	Minn. R. 7011.0715, subp. 1(B)

## TABLE B: SUBMITTALS

10/23/00

Facility Name: Froedtert Malt - Winona  
Permit Number: 16900013 - 001

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:

Permit Technical Advisor  
Permit Section  
Air Quality 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:

Supervisor  
Compliance Determination Unit  
Air Quality 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**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Computer Dispersion Modeling Protocol	due 1,096 days after Permit Issuance for SO <sub>2</sub> and NO <sub>x</sub> emissions. This protocol will describe the proposed modeling methodology and input data, in accordance with all requirements of 40 CFR pt. 51, App. W. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Computer Dispersion Modeling Results	due 1,462 days after Permit Issuance for SO <sub>2</sub> and NO <sub>x</sub> emissions. The results shall be submitted after the MPCA has reviewed and approved the modeling protocol. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure opacity of fugitive emissions from FS 002. This requirement also includes submittal of a written Performance Test Plan.	GP006
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure opacity of fugitive emissions from FS 002.	GP006
Performance Test Report	due 45 days after Initial Performance Test to measure opacity of fugitive emissions from FS 002.	GP006
Testing Frequency Plan	due 60 days after Initial Performance Test to measure opacity of fugitive emissions from FS 002. The plan shall specify a testing frequency using the initial performance test results and MPCA guidance. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	GP006

**TABLE B: RECURRENT SUBMITTALS**

10/23/00

Facility Name: Froedtert Malt - Winona

Permit Number: 16900013 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first 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
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). The Certification shall be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

## APPENDIX MATERIAL

**Facility Name:** Froedtert Malt - Winona

**Permit Number:** 16900013-001

### FUGITIVE EMISSIONS CONTROL PLAN

1. Inspections of facility grounds will be performed weekly by the elevator foreman and necessary cleaning assigned.
2. Spillage from truck loading operations or control equipment malfunction will be cleaned up no later than four hours after they occur unless safety or weather conditions prevent starting within this time frame. In these cases cleanup will start as soon as possible after conditions allow it.
3. Employees will be instructed that vacuuming is the preferred method of cleaning and that use of compressed air is to be considered a last resort method of cleaning. When compressed air is used care shall be taken to prevent fugitive dust emissions.
4. Employees will be instructed that load out operations will be done in a manner to reduce free fall height of product.
5. All bag filters will be operated as designed to control fugitive emissions during receiving, loadout and handling.
6. All bag filters will be operated as designed to control fugitive emission sources including but not limited to:
  - a) Truck and rail car loadout
  - b) Truck and rail receiving
  - c) Spillage from control and process equipment
  - d) Open doors and windows in headhouse and gallery areas
1. Roof areas will be inspected by the responsible foreman on a weekly basis and cleaning will be assigned as necessary.
8. Weekly inspection reports will indicate the following items at a minimum:
  - a) Date inspection was completed
  - b) Areas inspected
  - c) What condition was found
  - d) Whether an employee was assigned to clean area
  - e) Whether such cleaning was completed
  - f) Whether any maintenance or repair of control equipment (dust collectors) was necessary
9. Weekly inspection reports shall be retained for **5** years.

# BARLEY ELEVATOR

DATE: \_\_\_\_\_

DUST COLLECTOR:		SOUTH (CE 001)		WEST (CE 003)		EAST (CE 002)
	OK	COMMENTS	OK	COMMENTS	OK	COMMENTS
FANS RUNNING						
REVERSE AIR BLOWER ON						
ROTARY VALVE TURNING						
PNEUMATIC TAKEAWAY ON						
EXTERIOR PIPING (LEAKS?)						
DISCHARGE (VISIBLE EMISSIONS?)						
PRESSURE READINGS						

ROOF AREAS: \_\_\_\_\_

INSPECTION COMMENTS \_\_\_\_\_

BARLEY SCALE AREA: \_\_\_\_\_

ASSIGNMENTS \_\_\_\_\_

BARLEY UNLOAD AREA: \_\_\_\_\_

COMPLETION \_\_\_\_\_

- GROUNDS: A) FROM MALT LOADOUT WEST TO FENCELINE  
B) PARKING & STORAGE AREA  
C) ROADWAY NORTH OF MH #2 & 3  
D) ROADWAY NORTH OF MH #1

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FOREMAN: \_\_\_\_\_ PLANT MANAGER: \_\_\_\_\_

# MALT ELEVATOR

DATE: \_\_\_\_\_

DUST COLLECTOR:		EAST (CE 004)		WEST (CE 005)
	OK	COMMENTS	OK	COMMENTS
FANS RUNNING				
REVERSE AIR BLOWER ON				
ROTARY VALVE TURNING				
PNEUMATIC TAKEAWAY ON				
EXTERIOR PIPING (LEAKS?)				
DISCHARGE (VISIBLE EMISSIONS?)				
PRESSURE READINGS				

ROOF AREAS: \_\_\_\_\_

INSPECTION COMMENTS \_\_\_\_\_

\_\_\_\_\_

MALT LOADOUT AREA: \_\_\_\_\_

ASSIGNMENTS \_\_\_\_\_

\_\_\_\_\_

SPROUT LOADOUT AREA: \_\_\_\_\_

COMPLETION \_\_\_\_\_

\_\_\_\_\_

**GROUND:** A) FROM MALT LOADOUT  
EAST TO FENCELINE  
B) KILN TRANSFER & SPROUT  
LOADING AREA

ADDITIONAL COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

FOREMAN: \_\_\_\_\_

PLANT MANAGER: \_\_\_\_\_

MALTHOUSE

DATE: \_\_\_\_\_

**ROOF AREAS:**

A) MH #1 \_\_\_\_\_

B) MH #2 \_\_\_\_\_

C) MH #3 \_\_\_\_\_

INSPECTION COMMENTS \_\_\_\_\_  
\_\_\_\_\_

ASSIGNMENTS \_\_\_\_\_  
\_\_\_\_\_

COMPLETION \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FOREMAN: \_\_\_\_\_

PLANT MANAGER: \_\_\_\_\_

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**DRAFT AIR EMISSION PERMIT NO. 16900013-001**

This technical support document is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

**1. General Information**

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number	Facility Address (SIC Code: 2083)
Owner: International Malting Company, LLC 310 Grain Exchange Building Minneapolis, MN 55415	Froedtert Malt - Winona 500 West Third Street Winona, Winona County
Corporate Operator: Froedtert Malt PO Box 712 Milwaukee, WI 53201	
David Brunette 414/649-0284	Robert Cabelka 507/454-1535

1.2. Description of the facility

This facility receives barley by truck and rail. The barley is then weighed and sent to storage. Prior to the malting process, the barley is transferred from storage to a cleaner, width grader, separator, debearder, and an aspirator. Barley is then sent to one of the three malt houses.

In the malt house the barley is soaked in water in a steep tank, and then sent to a germination box to sprout. After the barley has sprouted it is dried in a malt kiln. Sulfur is burned in the kiln to produce sulfur dioxide which acts as a fungicide, bactericide, and preservative. After drying is complete the malt is sent to storage via a bucket elevator.

Malted barley is then sent to a scale and shipped by truck or rail. Malt byproduct (sprouts and screenings dust) is loaded and shipped out by truck. Barley byproduct is loaded out in the barley receiving area and shipped out by rail or truck. Both byproduct loadouts are equipped with extendible DCL loadout spouts to reduce byproduct freefall and fugitive dust emissions.

Fabric filters are used to control particulate matter and PM<sub>10</sub> from barley and malt handling processes. All other sources are uncontrolled. All fuel combustion sources

are restricted to natural gas and propane. Three small vacuum systems are used in malthouses and elevators for building cleanup and are insignificant activities according to Minn. R. 7007.1300, subp. 4.B.

Total barley and malt storage capacity at the facility exceeds 2.5 million bushels, and therefore the facility is a grain terminal elevator subject to 40 CFR part 60 subpart DD.

### 1.3 Description of any changes allowed with this permit issuance

This permit includes a new 27 mmBtu/hr natural gas/propane boiler. The boiler is located in Malt House number 3 and is referred to as MH-3 kiln boiler #2. This modification is allowed under the minor amendment provisions of Minn. R. ch. 7007. Therefore the boiler was installed prior to issuance of this permit, but not before 7 days after the November 29, 1999, receipt of the minor amendment application by the MPCA.

### 1.4 Description of all amendments issued since the issuance of the last total facility permit (2162B-86-OT-1; formerly issued as 674DD-86-OT-1) and included in this Part 70 Permit.

Permit Number and Issuance Date	Action Authorized
2162B-86-OT-1 Amendment No. 1; February 3, 1987	Install two gas-fired boilers (EU 036 and EU 037)
2162B-86-OT-1 Amendment No. 2; April 4, 1990	Installation of truck loading screenings/sprouts (byproduct) tank (EU 019)
2162B-92-I/O-1; June 1, 1992	Installation of malt byproduct and barley byproduct DCL loadout spouts (EU 019 and EU 008, respectively) and a gas-fired hot water kiln dryer heater (EU 028)

### 1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

	PM tpy	PM <sub>10</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO tpy	VOC tpy	Pb tpy	HAPs
Total Facility Limited Potential Emissions*	82.09	48.12	240.49	175.03	43.11	19.36	neg	neg
Total Facility Actual Emissions**	6.23	2.02	22.11	19.05	3.83	0.99	NR	NR

\*These are the limited potential emissions from column 3 in GI-07 from Delta. They differ from those in the permit application sent by the company in that they have been verified and corrected as needed by MPCA staff. These are the potential emissions that would appear in a public notice.

\*\*1997 Emission Inventory data

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Table 2. Facility and Permit Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)		SO <sub>2</sub>	NO <sub>x</sub> , PM, PM <sub>10</sub> , VOC, CO, Pb
NAAR (list pollutant)	NA	NA	NA
Part 70 Permit Program (list pollutant)	SO <sub>2</sub> , NO <sub>x</sub>		PM, PM <sub>10</sub> , VOC, CO, Pb, HAPs

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

## 2. Regulatory and/or Statutory Basis

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

### Regulatory Overview of Facility

	APPLICABLE REGULATIONS	COMMENTS:
GP 001	40 CFR § 52.21	Title I Condition to restrict SO <sub>2</sub> emissions to less than the 250 tpy PSD major source level
GP 002	Minn. R. 7007.0510	Standards of Performance for Existing Indirect Heating Equipment
GP 003	Minn. R. 7007.0515	Standards of Performance for Existing Indirect Heating Equipment
GP 004	40 CFR pt. 60, subp. Dc	Standards of Performance for subp. Dc Indirect Heating Equipment
GP 005	Minn. R. 7007.1200; Minn. R. 7007.0800; Minn. R. 7011.0075 and 7011.0080	Fabric Filter monitoring, operation, and maintenance requirements
GP 006	Minn. R. 7011.1005; 40 CFR pt. 60 subp. DD; 40 CFR § 60.8	Fugitive Emission Requirements - Receiving and Loadout; Performance Testing for FS 002 (Malt byproduct dust tank truck loadout)
GP 007	Minn. R. 7011.1005	Minn. R. Grain Handling Process Emissions Req'ts
GP 008	40 CFR § 60.302	NSPS subp. DD Process Emission Requirements
GP 009	Minn. R. 7011.0715	Minn. Industrial Process Equip. Rule for Malt Houses

## 3. Technical Information

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GP 008 - SV 001/CE001, SV 003/CE 003, and SV 008/CE 005: These three stack/vents are emission points for some emission units subject to Minn. R. 7011.1005, and other emission units subject to 40 CFR § 60.302. The particulate matter and opacity limits in 40 CFR § 60.302 are more restrictive than those in Minn. R. 7011.1005. As a result, SV 001, SV 003, and SV 008 emissions are subject to 40 CFR § 60.302. This is because during a performance test, the combined particulate matter and opacity emissions are measured after the control equipment at the stack/vent. The emission units subject to 40 CFR pt. 60 subp. DD are listed in the associated items in GP 008.

PM/PM<sub>10</sub> Potential Emissions: The permit requires the facility to meet the Control Equipment rule requirements in Minn. R. 7011.0060 – 7011.0080. Therefore, emission calculations were made using the allowed control equipment efficiencies in the rule along with EPA AP-42 emission factors, for all PM and PM<sub>10</sub> emission sources with air pollution control equipment.

SV 001, SV 002, SV 003, SV 007 and SV 008 PM/PM<sub>10</sub> Emission Calculations: In the Delta Facility Description, PM/PM<sub>10</sub> emission calculations for the stack/vent of each of the five large baghouses (CE 001/SV 001, CE 002/SV 002, CE 003/ SV 003, CE 004/SV 007, and CE 005/SV 008) were made by summing PM/PM<sub>10</sub> emissions from all emission units that vent to each baghouse. Note that for any process that with emissions captured by a hood (80% capture efficiency), the limited controlled emissions only from the captured emissions are summed. The fugitive emissions (20% uncaptured) are reported separately under the appropriate FS subject item.

For example, EU 008 is the barley DCL loadout spout. The process emissions are subject item EU 008, and the fugitive emissions are FS 004. EU 008 process emissions are captured and vented to CE 002/SV 002. The SV 002 PM/PM<sub>10</sub> emissions only include the EU 008 process emissions that are captured and controlled by CE 002, and do not include the FS 004 fugitive emissions (they are separately listed under FS 004).

FS 001, FS 002, FS 003, FS 004 and FS 005 PM/PM<sub>10</sub> Emission Calculations: For all five fugitive emission sources, the Delta Facility Description, PM/PM<sub>10</sub> emission calculations contain only the limited potential emissions in ton/year. This is because each fugitive emission source is part of a process that also is an emission unit. The hourly potential (lb/hr) and the maximum uncontrolled potential emissions (tpy) are already listed under the stack/vent that is the emission point for the associated emission unit.

GP 006: Performance testing and submittal of a test frequency plan is required for determining the opacity of fugitive emissions from FS 002 (Malt Byproduct Dust Tank DCL Loadout Spout). This requirements are necessary because this fugitive emission source has the potential to be very dusty.

FS 002/EU 019: The malt byproduct “dust” storage tank truck DCL loadout spout (EU 019/FS 002) is subject to 40 CFR § 60.302 because it does not qualify for the exemption under 40 CFR § 60.304(b)(1). The malt byproduct “dust” storage tank (EU 019/FS 002) was installed in 1990 (after the effective date of subp. DD), and therefore is not considered *existing* grain storage.

Public Notice: no comments were received during the public notice or during the EPA 45 day review period.

#### **4. Conclusion**

Based on the information provided by Froedtert Malt, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 16900013-001 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Marshall M. Cole, Yolanda Hernandez

Attachment: Emission Calculations