

**AIR EMISSION PERMIT NO. 12300704- 001**

**IS ISSUED TO**

**Metz Baking Company of Roseville**  
2745 Long Lake Road  
Roseville, Ramsey County, MN 55113-1131

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

Permit Type	Application Date
Total Facility Operating Permit	March 18, 1998

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 are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Federal; Part 70

**Issue Date:** December 10, 2001

**Expiration:** December 10, 2006

All Title I Conditions do not expire.

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Ann M. Foss  
Major Facilities Section Manager  
Majors and Remediation Division

for Karen A. Studders  
Commissioner  
Minnesota Pollution Control Agency

AF:smd

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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. Certain requirements which have been determined not to apply are listed in Table A of this permit.

Subject to the limitations of Minn. R. 7007.0100, 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:**

Metz Baking Company of Roseville is a bakery facility. The facility manufactures bread, buns, and other bakery products. Wheat and white flour are received at the facility and transferred to the mixing operations. Primary emissions at the facility are volatile organic compounds (VOC), which result from the fermentation of sugars. A smaller portion of the total facility emissions are from combustion of natural gas (primary fuel) and propane (backup fuel) in the ovens, boiler, and air makeup units.

Maximum potential emissions of the facility are greater than the Part 70 threshold for VOC, but less than the federal New Source Review/Prevention of Significant Deterioration (NSR/PSD) threshold of 250 tons per year. Therefore, the facility is a major source under the Part 70 Operating Permit Program, and a non-major source under NSR/PSD.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/10/01

Facility Name: Metz Baking Co of Roseville

Permit Number: 12300704 - 001

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

**Subject Item:****Total Facility**

<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. At a minimum, the O & M plan shall identify all air pollution control equipment and shall include a preventative maintenance program for that equipment, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
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
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
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

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/10/01

Facility Name: Metz Baking Co of Roseville

Permit Number: 12300704 - 001

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: 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)
Emission Inventory Report: due 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
The facility currently uses ozone-depleting substances as defined in 40 CFR pt. 82. Sections 601-618 of the 1990 Clean Air Act Amendments and 40 CFR pt. 82 may apply to your facility. Read Sections 601-618 and 40 CFR pt. 82 to determine all the requirements that apply to your facility.	40 CFR pt. 82

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/10/01

Facility Name: Metz Baking Co of Roseville

Permit Number: 12300704 - 001

**Subject Item: GP 001 Flour storage silos (filling operations)****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

EU 006 Wheat flour unload/storage silo

EU 007 White flour unload/storage silo #1

EU 008 White flour unload/storage silo #2

SV 005 Wheat Flour Silo

SV 006 White Flour Silo

SV 007 White Flour Silo

What to do	Why to do it
Opacity: less than or equal to 10 percent opacity from the fabric filters.	Minn. R. 7011.1005, subp. 3(D)
Opacity: less than or equal to 5 percent opacity from fugitive emissions from the truck unloading and flour handling operations.	Minn. R. 7011.1005, subp. 3(A)
Total Particulate Matter: greater than or equal to 80 percent control efficiency for the relief air vent at each storage silo. (Fabric filter/breather bags in use have an accepted control efficiency of 99%.)	Minn. R. 7011.1005, subp. 3(E)
The Permittee shall have the fabric filters in place at all times that a flour storage silo is being loaded.	Minn. R. 7011.1005, subp. 3(E)
Visible Emissions: The Permittee shall check the fabric filter emission points (SV005, SV006, and SV007) for any visible emissions once during each truck unloading/silo loading event.	Minn. R. 7011.1005, subp. 3(E) (monitoring control equipment operation)
Recordkeeping of Visible Emissions: The Permittee shall record the time and date of each visible emission inspection, and whether or not any visible emissions were observed.	Minn. R. 7011.1005, subp. 3(E) (monitoring control equipment operation)
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
The Permittee shall clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (reasonably available control technology).	Minn. R. 7011.1005, subp. 1(A)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/10/01

Facility Name: Metz Baking Co of Roseville

Permit Number: 12300704 - 001

**Subject Item:** GP 002 Direct Heating Equipment**Associated Items:** EU 001 Bread Oven

EU 002 Bun Oven

SV 001

SV 002

SV 003

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. This limit applies individually to each oven listed in GP002. (For EU001, the allowed emissions at maximum conditions are 0.093 gr/dscf; the maximum potential emissions are 0.0007 gr/dscf. For EU002, the allowed emissions at maximum conditions are 0.16 gr/dscf; the maximum potential emissions are 0.0001 gr/dscf.)	Minn. R. 7011.0610, subp. 1(A)(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. This limit applies individually to each unit listed in GP002.	Minn. R. 7011.0610, subp. 1(A)(2)
Fuel Type: natural gas or propane only, by design.	Minn. R. 7005.0100, subp. 35a

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/10/01

Facility Name: Metz Baking Co of Roseville

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**Subject Item:** GP 003 Indirect Heating Equipment**Associated Items:** EU 003 Boiler

EU 004 Make-Up Air Unit

EU 005 Make-Up Air Unit

SV 004

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input . This limit applies individually to each unit listed in GP003. (Maximum emissions of each unit at maximum capacity are 0.03 lbs/million Btu heat input.)	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. This limit applies individually to each unit listed in GP003.	Minn. R. 7011.0515, subp. 2
Fuel Type: natural gas or propane only, by design.	Minn. R. 7005.0100, subp. 35a



## TABLE B: SUBMITTALS

12/10/01

Facility Name: Metz Baking Co of Roseville  
Permit Number: 12300704 - 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**

12/10/01

Facility Name: Metz Baking Co of Roseville  
Permit Number: 12300704 - 001

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

**TABLE B: RECURRENT SUBMITTALS**

12/10/01

Facility Name: Metz Baking Co of Roseville

Permit Number: 12300704 - 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. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX B

**Facility Name:** Metz Baking Company of Roseville

**Permit Number:** 12300704-001

### Insignificant Activities and Applicable Requirements

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(D)	Processing operations:	
	<p>2. Equipment venting particulate matter (PM) or particulate matter less than 10 microns (PM-10) inside a building, provided that emissions from the equipment are:</p> <p>a). filtered through an air cleaning system; and</p> <p>b). vented inside of the building 100% of the time.</p> <p><i>Dry flour is transported through the facility pneumatically, with emission points (air relief vents) controlled by filters. None of the air relief vents are exhausted outside the building.</i></p>	Minn. R. 7011.0710/0715
3(H)	Miscellaneous:	
	<p>total usage of less than 200 gallons of VOC (including hazardous air pollutant-containing VOC) combined in any consecutive 12 months period at a stationary source;</p> <p><i>Approximately 130 gallons of solvent (66% VOC) are used annually by the facility.</i></p>	Minn. R. 7011.0710/0715
3(I)	<p>Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than:</p> <p>1. 4,000 lbs/year of carbon monoxide; and</p> <p>2. 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutant-containing VOC), and ozone.</p> <p><i>There are 15 individual air make up units that each have potential emissions below the these thresholds. Combined NO<sub>x</sub> emissions of the 15 units is less than 4 tons per year.</i></p>	Minn. R. 7011.0515
3(K)	<p>Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source, such as spray painting of buildings, machinery, vehicles, and other supporting equipment.</p> <p><i>Less than 200 gallons per year of spray paint is used annually for plant maintenance.</i></p>	Minn. R. 7011.0710/0715

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 12300704-001**

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

**1. General Information**

**1.1. Applicant and Stationary Source Location:**

Applicant/Address	Stationary Source/Address (SIC Code: 2051)
Metz Baking Company of Roseville 2745 Long Lake Road Roseville, MN 55113	2745 Long Lake Road Roseville, Ramsey County, Minnesota

**1.2. Description of the facility**

Metz Baking Company of Roseville is a bakery facility. The facility manufactures bread, buns, and other bakery products. Wheat and white flour are received at the facility and transferred to the mixing operations. Primary emissions at the facility are volatile organic compounds (VOC), which result from the fermentation of sugars while dough is “rising.” A small portion of the facility emissions are from combustion of natural gas (primary fuel) and propane (backup fuel) in the ovens, boiler, and air makeup units.

A description of the bread making process is included in Attachment 3 to this document.

**1.3. Description of any changes allowed with this permit issuance**

None

**1.4 Description of all amendments issued since the issuance of the last total facility permit and to be included in the Part 70 Permit.**

None

**1.5. Description of changes made since initial public notice**

No comments were received from the public or from EPA. No changes have been made to the permit since it was placed on public notice.

## 1.6. 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	All HAPs tpy
Total Facility Limited Potential Emissions	0.64	0.64	0.05	13.0	6.8	222.6	Neg
Total Facility Actual Emissions*	0.22	0.22	0.01	2.63	1.83	66.7	NR**

\* From 1999 Emission Inventory

\*\* NR = Not Reported (HAPs are not reported on the annual emission inventory.)

**Table 2. Facility and Permit Classification**

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD			All
Part 70 Permit Program	VOC		All others

\* 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

### New Source Review

The facility is a non major source under New Source Review regulations.

### Part 70 Permit Program

The facility is a major source under the federal operating permit program (40 CFR pt. 70).

### New Source Performance Standards

The facility is not subject to any of the New Source Performance Standards (40 CFR pt. 60).

### National Emission Standards for Hazardous Air Pollutants (NESHAPs)

The facility is not a major source of HAPs, and is not included in any source category subject to a promulgated, proposed, or future MACT standard.

### Stratospheric Ozone Protection

The only requirement in the permit directs the Permittee to review and follow the regulations (40 CFR pt. 82). The state does not enforce this regulation.

### Minnesota State Rules

Several state standards of performance apply to portions of this facility and are included in the permit. These are:

- Minn. R. 7011.0600 to 7011.0625 – New and Existing Direct Heating Fossil Fuel Burning Equipment

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- Minn. R. 7011.0500 to 7011.0553 – New and Existing Indirect Heating Fossil Fuel Burning Equipment
- Minn. R. 7011.1000 to 7011.1015 – Dry Bulk Agricultural Commodity Facilities.

**Table 3. Applicable Regulations**

EU, GP, or SV	Applicable Regulations	Comments:
GP001	Minn. R. 7011.1005	Standards of Performance for Dry Bulk Agricultural Commodities
GP002	Minn. R. 7011.0610	Standards of Performance for New Direct Heating Equipment
GP003	Minn. R. 7011.0515	Standards of Performance for New Indirect Heating Equipment

### 3. Technical Information

#### 3.1 Calculations

##### Combustion

Emissions from the combustion of natural gas and propane were done using emission factors from AP-42, and the maximum firing capacity of each individual unit. Potential emissions are the worst case (natural gas or propane) for each individual pollutant.

Example calculation (EU003):

$$4.184 \frac{\text{MMBtu}}{\text{hour}} \times 1050 \frac{\text{mmcf gas}}{\text{MMBtu}} \times 100 \frac{\text{lb NOX}}{\text{mmcf gas}} \times 8760 \frac{\text{hour}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 1.74 \frac{\text{ton NOX}}{\text{year}}$$

##### Fermentation (VOC)

VOC emissions from yeast-raised bread baking are derived from the equation in Section 9.9.6 of AP-42, which in turn took the equation from “Alternative Control Technology Documentation for Bakery Oven Emissions” (EPA 453/R-92-017, December 1992). The equation and description of the variables are shown in Attachment 1 to this document. The applicant determined the emission factor, using the equation, for each formula of bread or buns baked, and assumed the formula resulting from the worst-case (highest) emission factor was baked at the capacity of the facility. This is also included in Attachment 1.

The referenced EPA document shows that air emissions from yeast fermentation consist of approximately 47% carbon dioxide, 49% ethanol, and 4% glycerol, organic acids, and aldehydes. Acetaldehyde may represent a trace portion of the aldehydes emitted. EPA staff who developed the document confirmed to the Permittee (this was stated in the certified application) that there may be a potential for acetaldehyde to be emitted, but further indicated that because

acetaldehyde is a relatively unstable compound, any small amounts resulting from the fermentation process will continue breaking down in the oven and form ethanol before emerging from the exhaust stack. Therefore, while there is a possibility that acetaldehyde may be formed, there is a minimal changes it will actually be emitted, therefore all of the emissions are assumed to be ethanol.

### Flour Receiving

Flour is received by truck and transferred pneumatically to flour storage silos, which are located outside. There is a potential for particulate matter emissions from the vents at the top of the silos, particularly during the filling process. These vents are controlled by fabric filter “socks.”

Emissions from the filling operation were estimated using emission factors for grain handling from AP-42. It was assumed that these over-estimate the emissions, because although one might intuitively think that flour emissions would be greater than grain handling emissions, the grain handling emission factors account for significantly more handling than what actually takes place (assumes multiple belt conveyors and elevator legs, and some types of grain cleaning operations). The grain handling emission factor is approximately three times the Permittee’s estimate of particulate matter emissions from a single flour-handling operation.

Example Calculation:

$$0.061 \frac{\text{lb PM}}{\text{ton handled}} \times 52257 \frac{\text{tons handled}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 1.59 \frac{\text{ton PM}}{\text{year}}$$

## 3.2 Periodic Monitoring

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

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

- The likelihood of violating the applicable requirement;
- Whether add-on controls are necessary to meet the emission limit;
- The variability of the 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.

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



**Table 4. Emission Units Subject to Periodic Monitoring**

<b>EU/GP/CE</b>	<b>Emission limit (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
EU001	PM: 0.093 gr/dscf 20% opacity (Minn. R.)	None	Potential PM emissions from this unit are approximately 0.0007 gr/dscf, 0.75% of the applicable limit. There would be no visible emissions at this low emission rate. Noncompliance is unlikely.
EU002	PM: 0.16 gr/dscf 20% opacity (Minn. R. )	None	Potential PM emissions from this unit are approximately 0.0001 gr/dscf, 0.06% of the applicable limit. There would be no visible emissions at this low emission rate. Noncompliance is unlikely.
EU003, EU004, EU005 (identical limits and emission rates)	PM: 0.4 lb/MMBtu heat input 20% opacity (Minn. R. )	None	Potential PM emissions from each of these units are approximately 0.03 lb/MMBtu heat input, 7.5% of the applicable limit. It is unlikely that there would be visible emissions at this low emission rate (from combustion of natural gas). Noncompliance is unlikely.
EU006/ CE001  EU007/ CE002  EU008/ CE003	PM: Must be controlled 80%  10% opacity from control equipment  5% opacity from fugitive emissions (Minn. R.)	Visible emission observations during filling operation	The emissions from the silos are controlled by fabric filter “socks” assumed to be 99% efficient. This is much greater than the 80% required. The Permittee states that there are typically no visible emissions from these units. Visible emissions during the filling operation would indicate a potential problem with the filter.  There is no fan forcing air through the filter, and no pressure drop to measure across the device. Because the estimated emissions are so low, stack testing is not being requested.

### 3.3 Insignificant Activities

Flour handling – while this occurs within the building, there are fabric filters on each air relief vent, and all air is exhausted inside the building (not vented to atmosphere) 100% of the time. This is different from the flour receiving operation. The flour storage silos do exhaust to the atmosphere, and are included in the permit.

Cold solvent cleaning – a small amount of VOD is used annually (less than 200 gallons per year at 66% VOC) in two small cold solvent cleaners.

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Air makeup units – there are 15 small units that individually have potential emissions less than one ton per year for each criteria pollutant. Potential NOX emissions from the 15 units combined is less than 4 tons per year. Facility-wide NOX emissions are so small (13 tons per year) that inclusion of these units in the facility PTE would not affect any applicability determinations. There are also two units that have potential NOX emissions of greater than one ton per year, and those are included in the permit.

Spray paint – the facility uses less than 200 gallons per year of spray paint for miscellaneous maintenance activities.

#### **4. Conclusion**

Based on the information provided by Metz Baking Company, the MPCA has reasonable assurance that the operation of the emission facility, as described in the Air Emission Permit No. 12300704-001 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: Toni Volkmeier

Attachment:   1. Calculations  
                  2. Facility Description Forms  
                  3. Bread Making Process