

**Morin Brick Company
Androscoggin County
Auburn, Maine
A-209-70-C-A**

**Departmental
Findings of Fact and Order
Part 70 Air Emission License
Amendment #1**

After review of the Part 70 License amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, Section 344 and Section 590, the Department finds the following facts:

I. Registration

A. Introduction

FACILITY	Morin Brick Company (MBC)
RENEWAL LICENSE NUMBER	A-209-70-B-R
LICENSE TYPE	Part 70 Minor Modification
NAICS CODES	327121
NATURE OF BUSINESS	Brick Manufacturing
FACILITY LOCATION	Old Danville Road, Auburn
RENEWAL LICENSE ISSUANCE DATE	May 14, 2004
AMENDMENT ISSUANCE DATE	June 14, 2004
LICENSE EXPIRATION DATE	May 14, 2009

B. Modification Description

MBC has proposed increasing maximum potential brick production from its Auburn facility from 45,990 ton/yr to 61,320 ton/yr. This project involves the lengthening of the existing brick kiln and brick dryer. Additionally, MBC proposes to install a Dry Limestone Adsorber as add on air emission control for the brick kiln.

C. Application Classification

For pollutants which have not exceeded the “Significant Emission Levels” as defined in the Department’s regulations, a modification is considered major based on whether or not expected emission increases exceed these levels. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
PM	24.9	19.6	-5.3	100
PM ₁₀	24.9	19.6	-5.3	100
SO ₂	18	20.9	+2.9	100
NO _x	15	13.0	-2.0	100
CO	36	43.9	+7.9	100
VOC	8.4	10.2	+1.8	50
HF	27.6	3.7	-23.9	100

Therefore, the modification is minor for MBC. All pollutants listed above are subject to Best Available Control Technology (BACT) requirements.

II. FACILITY AND EMISSION UNIT DESCRIPTION

A. Brick Kiln

The Brick Kiln (kiln) was previously licensed with a maximum heat input capacity of 9.67 MMBtu/hr. The kiln was operated with 50 burners that can fire either natural gas or propane. The maximum hourly production rate was 5.25 ton/hr and the maximum annual brick production was previously limited to 45,990 tons.

As part of the planned production increase, MBC has proposed adding 42 new burners and increasing the licensed heat input capacity to 15.0 MMBtu/hr. The maximum hourly production rate will be increased to 7.0 ton/hr, with an annual production limit of 61,320 tons.

It has been determined that hydrogen chloride (HCl) emissions from operation of the brick kiln are negligible. Analysis of clay and fired brick samples conducted by the National Brick Research Center in August 2002 showed that the percent chlorides in every sample (both before and after the kiln) were below detection

limits. Therefore, HCl emissions from the brick kiln were assumed to be insignificant.

For control of hydrogen fluoride (HF) emissions from the kiln, MBC has proposed the addition of a dry limestone adsorber. This equipment is described in more detail later in this document.

B. Brick Dryer

MBC has proposed lengthening the brick dryer and constructing a new dryer stack as part of this project. In addition, a small auxiliary burner will be added to boost the temperature of the air being vented to the dryer from the cooling zone of the kiln. The auxiliary burner will have a maximum heat input capacity of 2.0 MMBtu/hr and is therefore considered an insignificant activity.

Distillate or waste oil is used as a lubricant during extrusion of the brick column through the dies. This oil is assumed to be volatilized in the brick dryer. As part of the expansion, MBC has proposed increasing the permitted oil usage for this purpose from 2,000 gal/year to 2,500 gal/year.

C. Dry Limestone Adsorber

As part of the application for this expansion project, MBC performed a Best Available Control Technology (BACT) analysis for control of hydrogen fluoride (HF) and particulate matter emissions. As part of their analysis MBC considered several different pieces of add on control technology including dry lime injection fabric filters, dry lime scrubber/fabric filters, wet scrubbers, and dry limestone adsorbers.

The use of each type of control device was extensively evaluated by EPA during their development of the Brick MACT. The Department concurs with the EPA and MBC's conclusion that the use of a dry limestone adsorber (DLA) with an emission limit of 0.84 lb/hr of HF and 3.5 lb/hr of PM represents BACT for the modified brick kiln.

The DLA system operation begins with the gases entering a large inlet manifold that lowers the air speeds and directs the gases to numerous reaction sections. The gases then pass through a reactor section filled with granular limestone. The acidic gases are adsorbed when they come into contact with the limestone surfaces. The exhaust gases then pass to an outlet manifold where they are collected and ducted to the exhaust fan and stack.

Streamlining

1. Opacity
MEDEP Chapter 101, Section 2(B)(3)(d) contains the only applicable opacity standard.
No streamlining requested.

2. PM
 - a. MEDEP Chapter 105, Section 3 contains an applicable PM lb/hr emission standard.
 - b. A BACT analysis established an applicable PM lb/hr emission limit.

MBC accepts streamlining for the PM lb/hr standard. The BACT limit is the most stringent and is therefore the only PM lb/hr emission limit included in this license.

3. PM₁₀
BACT establishes the only applicable PM₁₀ lb/hr emission limit.
No streamlining requested.

4. SO₂
BACT establishes the only applicable SO₂ lb/hr emission limit.
No streamlining requested.

5. NO_x
BACT establishes the only applicable NO_x lb/hr emission limit.
No streamlining requested.

6. CO
BACT establishes the only applicable CO lb/hr emission limit.
No streamlining requested.

7. VOC
BACT establishes the only applicable VOC lb/hr emission limit.
No streamlining requested.

8. HF
BACT establishes the only applicable HF lb/hr emission limit.
No streamlining requested.

Periodic Monitoring

Periodic monitoring shall consist of record keeping including maintenance records for the DLA and limestone usage based on purchase receipts.

Periodic monitoring shall also consist of the following:

Item to be Monitored	Record
DLA Inlet Temperature	once per shift
DLA Pressure Drop	once per shift

Parameter Monitors

There are no Parameter Monitors required for the DLA.

D. MACT Applicability

On May 16, 2003, EPA promulgated National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing (40 CFR Part 63, Subpart JJJJ). This rule requires affected major sources of Hazardous Air Pollutants (HAPs) to comply with applicable emission standards. MBC is considered to be in the Brick and Structural Clay Products Manufacturing source category and is a major source of HAPs. However, Section 63.8390(d) of the final rules exempts from the requirements of Subpart JJJJ existing tunnel kilns with a federally enforceable permit condition that restricts kiln operation to less than 10 tons/hr of fired product on a 12-month rolling average basis.

MBC is subject to a federally enforceable permit condition restricting the facility to an annual brick production limit of 61,320 tons per year on a 12-month rolling total basis. Through discussions with EPA, it has been determined that this condition is sufficient to restrict MBC to less than 10 ton/hr, such that the facility is not subject to Subpart JJJJ.

In addition, brick kilns are subject to Subpart JJJJ if it is determined the kiln was reconstructed. A source is considered to be reconstructed if the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source. The anticipated capital cost for the proposed modifications is \$1,340,450. The fixed capital cost for a comparable new kiln is estimated at \$2,988,860. Therefore, the proposed modifications are not considered to be reconstruction subject to Subpart JJJJ.

E. Facility Emissions

Total Licensed Annual Emission for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC	HF
Kiln	15.3	15.3	20.5	10.7	36.8	0.7	3.7
Brick Dryer	-	-	-	-	-	8.8	-
Batch Dryer	4.3	4.3	0.4	2.3	7.1	0.7	-
Total TPY	19.6	19.6	20.9	13.0	43.9	10.2	3.7

III. AIR QUALITY ANALYSIS

According to Chapter 140 of the Department's regulations, an existing Part 70 source shall be exempt from an impact analysis with respect to a regulated pollutant whose allowable emissions do not exceed the following:

<u>Pollutant</u>	<u>Tons/year</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on facility license allowed emissions, MBC is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that emissions from this sources:

- will receive Best Practical Treatment;
- will not violate applicable emissions standards
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-209-70-C-A subject to the conditions found in Air Emission License A-209-70-B-R and in the following conditions.

Federally enforceable conditions in this Part 70 license must be changed pursuant to the applicable requirements in Chapter 115 for making such changes and pursuant to the applicable requirements in Chapter 140.

For each standard and special condition which is state enforceable only, state-only enforceability is designated with the following statement: **Enforceable by State-only**.

Previously permitted Conditions for MBC shall remain in effect until the proposed expansion has been completed. At that time the following changes shall take effect:

The following shall replace Condition (14)(A) of Air Emission License A-209-70-B-R:

- A. The Brick Kiln shall not exceed a heat input rate of 15.0 MMBtu/hr of propane and natural gas. [MEDEP Chapter 140, BPT]
Enforceable by State-only

The following shall replace Condition (14)(B) of Air Emission License A-209-70-B-R:

- B. Flashing in the Brick Kiln shall be limited to 31 gallons per hour for propane and 2,756 cubic feet per hour for natural gas. [MEDEP Chapter 140, BPT]
Enforceable by State-only

The following shall replace Condition (14)(D) of Air Emission License A-209-70-B-R:

- D. Emissions from the Brick Kiln shall not exceed the following limits:

Pollutant	lb/hr	Origin and Authority	Enforceability
PM	3.5	MEDEP Chapter 140, BPT	Federally Enforceable
PM ₁₀	3.5	MEDEP Chapter 140, BPT	Federally Enforceable
SO ₂	4.7	MEDEP Chapter 140, BPT	Federally Enforceable
NO _x	2.5	MEDEP Chapter 140, BPT	Federally Enforceable
CO	8.4	MEDEP Chapter 140, BPT	Federally Enforceable
VOC	0.2	MEDEP Chapter 140, BPT	Federally Enforceable
HF	0.84	MEDEP Chapter 140, BPT	Federally Enforceable

The following shall replace Condition (15) of Air Emission License A-209-70-B-R:

(15) Process Limit

MBC shall not exceed an annual (12-month rolling total) brick production limit of 61,320 tons per year. Morin Brick Company shall maintain records of monthly brick throughput. [MEDEP Chapter 140, BPT]

The following shall replace Condition (16)(B) of Air Emission License A-209-70-B-R:

B. VOC emissions from the brick dryer shall not exceed 2.0 lb/hr. [MEDEP Chapter 140, BPT] **Enforceable by State-only**

The following shall replace Condition (18)(A) of Air Emission License A-209-70-B-R:

(18) Facility Fuel Use

A. For the fuel oil utilized as a lubricant during the extrusion of the brick column through the dies, MBC shall not exceed an annual distillate oil (including #2 fuel oil and specification waste oil) use cap of 2,500 gallons per year (12-month rolling total) demonstrated by purchase records from the supplier. [MEDEP Chapter 140, BPT] **Enforceable by State-only**

Condition (20) of Air Emission License A-209-70-B-R is deleted.

The following shall replace Condition (21) of Air Emission License A-209-70-B-R:

(21) Monitoring and Recordkeeping Requirements
[MEDEP Chapters 140]

The following are identified as Periodic Monitors:

1. Brick throughput
2. Amount of brick additive used
3. Fuel use (propane and natural gas)
4. Amount of #2 fuel oil and specification waste oil used in the extrusion process
5. Sulfur content of the #2 fuel oil used in the extrusion process
6. DLA inlet temperature and pressure drop once per shift.
7. Records of monthly limestone usage.

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The following are new Conditions:

- (30) MBC shall operate the Dry Limestone Adsorber (DLA) whenever the Brick Kiln is in operation. [MEDEP Chapter 140, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS _____ DAY OF _____ 2004.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-209-70-B-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 4/9/04
Date of application acceptance: 4/12/04

Date filed with the Board of Environmental Protection: _____

This Order prepared by Lynn Ross, Bureau of Air Quality.