



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

RJF – Morin Brick, LLC
Androscoggin County
Auburn, Maine
A-209-71-H-R (SM)

Departmental
Findings of Fact and Order
Air Emission License
Renewal

FINDINGS OF FACT

After review of the air emissions license application, staff investigation reports and other documents in the applicant’s file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

RJF – Morin Brick, LLC (Morin Brick) has applied to renew their Air Emission License permitting the operation of emission sources associated with their brick manufacturing facility.

The equipment addressed in this license is located at 130 Morin Brick Road, Auburn, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Process Equipment

<u>Equipment</u>	<u>Maximum Process Rate</u>	<u>Pollution Control Equipment</u>	<u>Stack #</u>
Brick Kiln	15.0 MMBtu/hr 7.0 ton/hr	dry limestone adsorber	1
Brick Dryer	2.0 MMBtu/hr 8.25 ton/hr	none	2
Batch Dryer	1.4 MMBtu/hr 12.5 ton/hr	none	3 & 4

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17 STATE HOUSE STATION
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(207) 287-7688 FAX: (207) 287-7826
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106 HOGAN ROAD, SUITE 6
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1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
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C. Application Classification

The application for Morin Brick does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of currently licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (CMR) 115 (as amended).

With the facility throughput limit and the limit on oil use for brick extrusion, the facility is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor.

With the limit on hydrogen fluoride (HF) emissions, the facility is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP.

II. BEST PRACTICAL TREATMENT (BPT)

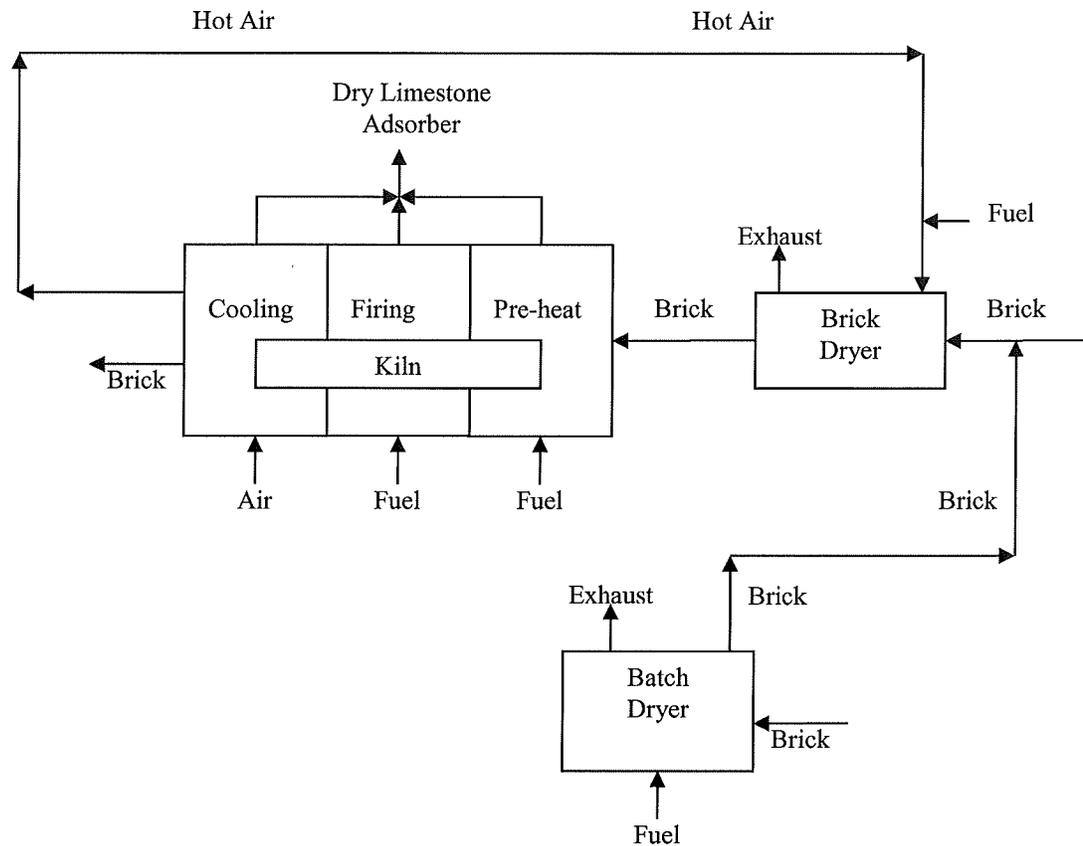
A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Process Diagram



C. Brick Kiln

The Brick Kiln was manufactured by Lingl Corporation in 1979 and subsequently modified in 2004. It is equipped with 92 burners with a total combined maximum firing rate of 15.0 MMBtu/hr firing natural gas or propane. The maximum hourly production rate is 7.0 ton/hr, with an annual production limit of 61,320 tons.

In August 2002, clay and fired brick samples from Morin Brick were sent to the National Brick Research Center in South Carolina for analysis. The analyses showed that the percent chlorides in every sample from both before and after the kiln were below detection limits. Therefore, HCl emissions from the kiln are assumed to be insignificant.

For control of hydrogen fluoride (HF) emissions from the Brick Kiln, Morin Brick utilizes a dry limestone adsorber (DLA). 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

1. BPT Findings

The BPT emission limits for the Brick Kiln were based on the following:

- PM/PM₁₀ – 3.5 lb/hr based on previous BACT (A-209-70-C-A 6/14/04)
- SO₂ – 0.67 lb/ton of product; AP-42 Table 11.3-3 dated 8/97
- NO_x – 0.35 lb/ton of product; AP-42 Table 11.3-3 dated 8/97
- CO – 1.2 lb/ton of product; AP-42 Table 11.3-3 dated 8/97
- VOC – 0.024 lb/ton of product; AP-42 Table 11.3-5 dated 8/97
- Opacity – 06-096 CMR 101

The BPT emission limits for the Brick Kiln are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)	HF (lb/hr)
Brick Kiln	3.50	3.50	4.69	2.45	8.40	0.17	0.84

Visible emissions from the Brick Kiln shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 1-hour period.

Morin Brick shall be limited to a production of no more than 61,320 tons of brick per year.

2. Periodic Monitoring

Periodic monitoring for the Brick Kiln shall include recordkeeping to document fuel use, brick additive use, and brick throughput both on a monthly and 12 month rolling total basis.

Periodic monitoring for the DLA shall include continuous monitoring of the DLA inlet temperature and pressure drop. Morin Brick shall keep records of all maintenance performed on the DLA and limestone usage (through purchase records).

3. 40 CFR Part 63 Subpart JJJJ

The *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Brick and Structural Clay Products*, 40 CFR Part 63, Subpart JJJJ, is not

applicable to this facility. Use of the DLA restricts the emissions of HAP from the facility to below major source thresholds.

In addition, Morin Brick is subject to a federally enforceable permit condition restricting the facility to an annual brick production of 61,320 tons per year (tpy) on a 12-month rolling total basis. Through discussions with EPA, it has been determined that this condition is sufficient to restrict Morin Brick to less than 10 ton/hr of fired product on a 12-month rolling average basis. This exempts the facility from Subpart JJJJJ per Section 63.8390(d).

D. Brick Drying Operation

The Brick Dryer was manufactured by Lingl Corporation in 1979 and modified in 2004. The green brick process rate input to the dryer is 18,975 lb/hr, and the dried brick output is 16,500 lb/hr. Hot air from the cooling zone of the kiln is used to heat the brick dryer. According to AP-42, Chapter 11.3, brick dryers that are heated with waste heat from the kiln cooling zone are not usually a source of combustion products because kilns are designed to prevent combustion gases from entering the cooling zone. The Brick Dryer has an auxiliary burner to boost the temperature of the air being vented to the dryer from the cooling zone of the kiln. The auxiliary burner has a maximum heat input capacity of 2.0 MMBtu/hr and fires natural gas or propane. Per AP-42, Chapter 11.3, brick dryers with supplemental burners produce small amounts of NO_x and CO emissions. The auxiliary burner at Morin Brick is typically operated only a few times per month. Natural gas usage for the auxiliary burner for the Brick Dryer are included in the natural gas usage for the Brick Kiln. Therefore, assumed emissions from the Brick Kiln are sufficient to include NO_x and CO emissions from the Brick Dryer.

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. Morin Brick is licensed to use 2,500 gal/year for this purpose.

The Batch Dryer was manufactured by Pixley Ceriv in 1987 and is equipped with one Multifire III burner. The burner was manufactured by Maxon Burner Corporation with a maximum design heat input capacity of 1.4 MMBtu/hr. The Batch Dryer fires natural gas or propane. The molded brick process rate input to the Batch Dryer is 25,000 lb/hr and molded brick output rate is approximately 25,000 lb/hr.

Although they are physically separate units, emissions from the Brick Dryer and Batch Dryer are considered together as AP-42 considers them both to make up the brick drying operation.

1. BPT Findings

The BPT emission limits for the brick drying operation were based on the following:

- PM/PM₁₀ – 3.00 lb/hr based on a previous BACT analysis
- SO₂ – SO₂ emissions from this process are considered to be negligible
- NO_x – 0.098 lb/ton of product; AP-42 Table 11.3-3 dated 8/97
- CO – 0.31 lb/ton of product; AP-42 Table 11.3-3 dated 8/97
- VOC – 0.03 lb/ton of product; AP-42 Table 11.3-5 dated 8/97
plus 2.0 lb/hr from the volatilization of extrusion lubricant
- Opacity – 06-096 CMR 101

The BPT emission limits for the brick drying operation are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Brick Dryer & Batch Dryer (combined)	3.00	3.00	neg	0.69	2.17	2.21

Visible emissions from the Brick Dryer and the Batch Dryer shall each not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 1- hour period.

E. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

F. Annual Emissions

1. Total Annual Emissions

Morin Brick shall be restricted to the following annual emissions, based on a 12 month rolling total. The tons per year limits were calculated based on the following:

- A throughput of 7.0 ton brick/hour and 61,320 ton brick/year.
- Use of 2,500 gal/year of #2 fuel oil in the brick extrusion process

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

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC	HF
Brick Kiln	15.3	15.3	20.5	10.7	36.8	0.7	3.7
Brick Drying & Extrusion Vaporization	5.7	5.7	–	3.0	9.5	9.7	–
Total TPY	21.0	21.0	20.5	13.7	46.3	10.4	3.7

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through ‘Tailoring’ revisions made to EPA’s *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO₂e).

Based on the facility’s limits, the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, Morin Brick is below the major source threshold of 100,000 tons of CO₂e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source shall be determined by the Department on a case-by case basis. In accordance with 06-096 CMR 115, an ambient air quality impact analysis is not required for a minor source if the total emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

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

The total facility licensed emissions are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

ORDER

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

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

The Department hereby grants Air Emission License A-209-71-H-R subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]

- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 2. pursuant to any other requirement of this license to perform stack testing.

- B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
[06-096 CMR 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
[06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods,

at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) Brick Kiln

- A. The Brick Kiln shall be limited to the firing of propane and natural gas only. [06-096 CMR 115, BPT]
- B. Emissions from the Brick Kiln shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)	HF (lb/hr)
Brick Kiln	3.50	3.50	4.69	2.45	8.40	0.17	0.84

- C. Visible emissions from the Brick Kiln shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]
- D. Morin Brick shall operate the Dry Limestone Adsorber (DLA) whenever the Brick Kiln is in operation. [06-096 CMR 115, BPT]
- E. Morin Brick shall continuously monitor, and record once per shift, the DLA inlet temperature and pressure drop. [06-096 CMR 115, BPT]
- F. Morin Brick shall keep records of all maintenance (routine or otherwise) and repairs performed on the DLA. Morin Brick shall keep records of limestone usage demonstrated through purchase records. [06-096 CMR 115, BPT]
- G. Morin Brick shall maintain monthly records of brick additives indicating amount of additive purchased and weight percent HAP. [06-096 CMR 115, BPT]

(17) Brick Drying Operations

- A. The Brick Dryer and Batch Dryer shall each only fire propane or natural gas. [06-096 CMR 115, BPT]

- B. Total emissions from the brick drying operations shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Brick Dryer & Batch Dryer (combined)	3.00	3.00	neg	0.69	2.17	2.21

- C. Visible emissions from the Brick Dryer and the Batch Dryer shall each not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 1- hour period. [06-096 CMR 101]

(18) **Process Limit**

Morin Brick shall not exceed an annual (12-month rolling total) brick production limit of 61,320 tons per year. Morin Brick shall maintain monthly records of brick throughput. [06-096 CMR 115, BPT]

(19) **Fuel Usage**

A. Morin Brick shall not exceed the use of 2,500 gallons per year of #2 fuel oil and specification waste oil (combined) as an extrusion lubricant. Morin Brick shall keep records of the amount of oil used for this purpose. [06-096 CMR 115, BPT]

B. Morin Brick shall keep monthly records of the amount of each type of fuel fired at the facility. [06-096 CMR 115, BPT]

(20) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [06-096 CMR 101]

(21) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 (as amended), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of either:

- 1) A computer program and accompanying instructions supplied by the Department; or

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- 2) A written emission statement containing the information required in 06-096 CMR 137.

The emission statement must be submitted as specified by the date in 06-096 CMR 137.

- (22) Morin Brick shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 3 DAY OF June, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:

Marc Allen Robert Corne for
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a complete renewal application, as determined by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the renewal of the license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 3/19/14

Date of application acceptance: 3/21/14

Date filed with the Board of Environmental Protection:

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

