STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION | AUGUSTA, MAINE 04333-0017
DEPARTMENT ORDER

Morin Brick, LLC	**Departmental**
Androscoggin County	**Findings of Fact and Order**
Auburn, Maine	**Air Emission License**
A-209-71-I-R/A	**Renewal and After-the-Fact Amendment**

Findings of Fact

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

I. Registration

A. Introduction

At the time of renewal RJF – Morin Brick, LLC requested a name change to Morin Brick, LLC. Morin Brick, LLC (Morin Brick) has applied to renew their Air Emission License for the operation of emission sources associated with their brick manufacturing facility. Morin Brick also requested an after-the-fact amendment to their license in order to add a forced air heater for building heat.

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

B. Emission Equipment

The following equipment is addressed in this air emission license:

Heater

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
FHA #1 [A]	1.25	1,225.5 scf/hr	Natural Gas	Prior to 2007	2007	N/A

[A] New to the license

Process Equipment

Equipment	Max. Heat Input	Production Rate	Pollution Control Equipment	Stack #
K1 (Brick Kiln)	15.0 MMBtu/hr	7.0 ton/hour	Dry Limestone Adsorber	1
1BD (Brick Dryer)	2.0 MMBtu/hr	8.25 ton/hour	None	2
2BD (batch Dryer)	1.0 MMBtu/hr	12.5 ton/hour	None	3 & 4

C. Definitions

Distillate Fuel means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

Records or *Logs* mean either hardcopy or electronic records.

Waterstruck bricks means bricks formed using a mold or cast before being fired; these have a higher water content than wirecut bricks.

Wirecut bricks means bricks formed by extruding brick material through a die and cutting it with wire to create evenly shaped and sharp-edged bricks, uniform in size and shape.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the date this license was issued.

Morin Brick has applied to renew currently licensed emission units as well as amend their license as addressed in Section I(A) above.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emissions” levels as defined in the Department’s *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emissions Levels
PM	21.0	28.7	+7.7 [A]	100
PM_{10}	21.0	28.7	+7.7 [A]	100
$PM_{2.5}$	[B]	28.7	- [B]	100
SO_2	20.5	20.5	-	100
NO_x	13.7	14.2	+0.5	100
CO	46.3	46.8	+0.5	100
VOC	10.4	10.4	-	100

[A] There was a mismatch between the short-term limits and the annual potential-to-emit (PTE) values in the previous license. Based on a review of the process, the PM and PM_{10} annual PTE values were revised upward in this renewal.

[B] $PM_{2.5}$ was previously not addressed in the license.

Therefore, this license is considered to be both a renewal and a minor modification and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules C.M.R. ch. 115.

E. Facility Classification

With the annual production limit of 61320 ton/year of finished-product bricks, the limit of 2,500 gal/year of clean, lubricating oil for lubricating the brick during the extrusion process, and the limit on hydrogen fluoride (HF) emissions, the facility is licensed as follows:

- As a synthetic minor source of air emissions for criteria pollutants, because Morin Brick is subject to license restrictions that keep facility emissions below major source thresholds for CO and VOC; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for 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 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

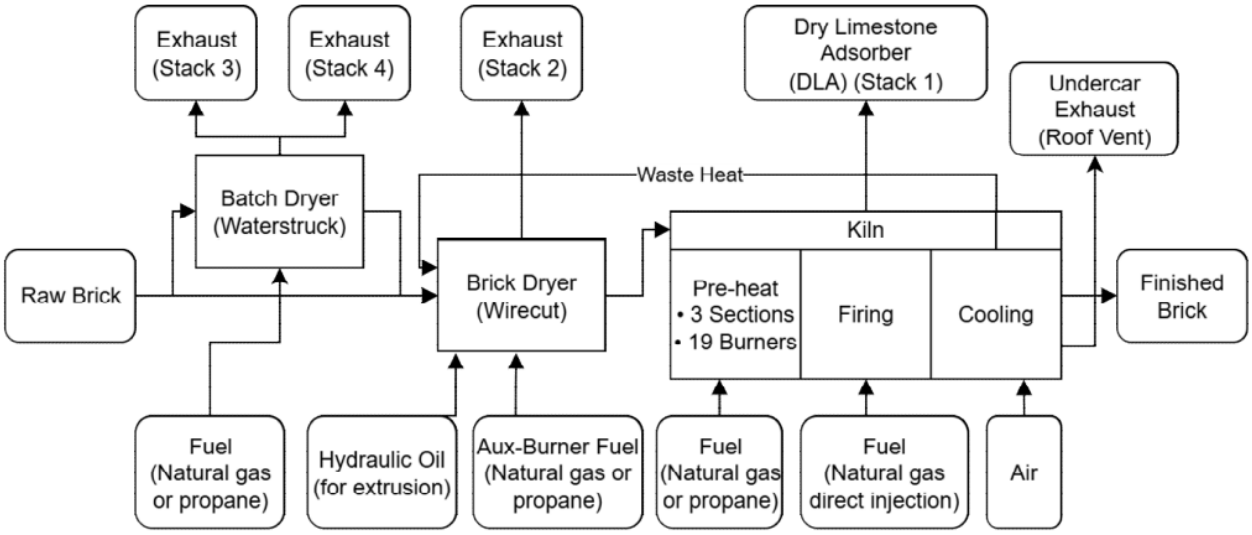
BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions*

Regulation, 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

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. Process Description

The primary raw material for brick making is clay, which is often mixed with other materials that may include sand, lime, and water. The bricks are then shaped through either molding or extrusion. Bricks must then be dried to remove excess water. The dried bricks are then fired in a kiln; this gives them their final strength, hardness, and color. Upon exiting the kiln, they are cooled and sorted before being packaged for sale.

Morin Brick forms bricks from clay mixtures. Prior to forming, additives that can contain HAP are sometimes blended into the clay; this is infrequent in the facility's current process and typically occurs two or fewer times per year. Morin Brick processes and produces two types of bricks: waterstruck bricks and wirecut bricks, both as defined above. The two types follow different processing pathways at the facility.

After molding, waterstruck bricks enter the Batch Dryer, also known as the Waterstruck Dryer, where initial drying occurs. Waterstruck bricks and wirecut bricks both then enter the Brick Dryer, also known as the Wirecut Dryer. Only waterstruck bricks are processed in the Batch Dryer, but both waterstruck and wirecut bricks are processed in the Brick Dryer. Hot air from the Kiln is circulated into the Brick Dryer to aid the drying process. An auxiliary burner, firing natural gas with a maximum heat input capacity of 2.0 MMBtu/hr, is used as needed to supplement heat coming from the hot Kiln air. Typically, the auxiliary burner is only used a few times per month. Clean hydraulic oil is used as a lubricant for the extrusion process. The oil is assumed to be volatilized in the dryer.

After initial drying, bricks enter the Kiln. The Kiln is discussed in detail further below.

D. Forced Hot Air Heater – FHA #1

Morin Brick operates a Dravo forced hot air heater (FHA #1) for building heater. FHA #1 is rated at 1.25 MMBtu/hr and fires natural gas. FHA #1 was installed in 2007.

1. BACT Findings

Morin Brick submitted a BACT analysis for control of emissions from FHA #1.

a. Particulate Matter (PM, PM_{10}, $PM_{2.5}$)
Morin Brick has proposed to burn only natural gas which is a low-ash content fuel. Additional add-on pollution controls are not economically feasible.

BACT for PM/PM_{10}/$PM_{2.5}$ emissions from FHA #1 is firing natural gas and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO_2)
Morin Brick has proposed to fire only natural gas, inherently containing negligible amounts of sulfur. The use of this fuel results in minimal emissions of SO_2, and additional add-on pollution controls are not economically feasible.

BACT for SO_2 emissions from FHA #1 is the use of natural gas and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)
Morin Brick considered several control strategies for the control of NO_x including Selective Catalytic Reduction (SCR), Selective Non-Catalytic

Reduction (SNCR), water/steam injection, and flue gas recirculation (FGR). These types of controls are not available for forced hot air units of this size.

BACT for NO_x emissions from FHA #1 is the firing of natural gas and the emission limits listed in the tables below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)
Morin Brick considered several control strategies for the control of CO and VOC including oxidation catalysts and thermal oxidizers.

Oxidation catalysts and thermal oxidizers both have high capital, maintenance, and operational costs considering the size of the boiler in question. These controls were determined to be economically infeasible.

BACT for CO and VOC emissions from FHA #1 is the firing of natural gas and the emission limits listed in the tables below.

e. Emission Limits
The BACT emission limits for FHA #1 were based on the following:

Natural Gas

$PM/PM_{10}/PM_{2.5}$	– 0.05 lb/MMBtu, 06-096 C.M.R. ch. 115, BACT
SO_2	– 0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
NO_x	– 100 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
CO	– 84 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
VOC	– 5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
Visible Emissions	– 06-096 C.M.R. ch. 101

The BACT emission limits for FHA #1 are the following:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
FHA #1	0.06	0.06	0.06	-	0.12	0.10	0.01

2. Visible Emissions

Visible emissions from FHA #1 shall not exceed 10% opacity on a six-minute block average basis.

3. Periodic Monitoring

   Periodic monitoring for FHA #1 shall include recordkeeping to document fuel use both on a monthly and calendar year total basis.

4. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

   FHA #1 does not generate steam and therefore is not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

5. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJJ

   FHA #1 does not heat water. The unit does not meet the definition of a "boiler" and therefore is not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJJ.

E. Brick Drying Operation

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. The molded brick process rate input to the Batch Dryer is 25,000 lb/hr, and the molded brick output rate is approximately 18,910 lb/hr. The Batch Dryer exhausts from Stacks #3 and #4.

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 is recirculated from the Kiln to heat the Brick Dryer. According to AP-42, Chapter 11.3, brick dryers that are heated with waste heat from the kiln drying 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. Pursuant to 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 is included in the natural gas usage for the Brick Kiln, since they share a common gas meter. Therefore, assumed emissions from the

Brick Kiln are sufficient to include NO_x and CO emissions from the Brick Dryer. The Brick Dryer exhausts from Stack #2.

Clean, hydraulic 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 it passes through a vacuum chamber to remove the air from the bricks. Morin Brick is licensed to use 2,500 gal/year of hydraulic oil for this purpose.

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

1. BPT Findings

The BACT emission limits for FHA #1 were based on the following:

$PM/PM_{10}/PM_{2.5}$	– 3.00 lb/hr A-209-71-E-M (05/19/1998), BACT
SO_2	– SO_2 emissions from this process are considered to be negligible, based on AP-42 Table 11.3-3 dated 8/97
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 the extrusion lubricant
Visible Emissions	– 06-096 C.M.R. ch. 101

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

Unit	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Brick Dryer & Batch Dryer (combined)	3.0	3.0	3.0	-	0.69	2.17	2.21

2. Visible Emissions

Visible emissions from the Brick Dryer and Batch Dryer shall not exceed 20% opacity on a six-minute block average basis.

F. Brick Kiln

The Brick Kiln was manufactured by Lingl Corporation in 1979 and subsequently modified in 2004. The Kiln consists of three sections and is equipped with 92 burners with a total combined maximum heat input capacity of 15.0 MMBtu/hr

firing natural gas. The first section is the Pre-heat Section which contains 19 burners. The next section is the Firing Section. Natural gas is injected directly into the Kiln, without combustion at a burner orifice. The natural gas burns inside the Kiln chamber at a low burn efficiency. There are 21 injectors in the Firing Section of the Kiln. This process is called "flashing," and the purpose is to color the bricks. This occurs for a few seconds at a time, once per hour. The third section of the Kiln is for cooling the bricks, exiting the Firing Section at approximately 1,600 °F and moving into subsequent cooling zones until the temperature drops to a level that would prevent any further HF generation. When the bricks enter the final stage of the cooling zone, the waste hot air is recirculated to the Brick Dryer. Below the Kiln cars, there is a chamber that has ambient air passing through and exhausting through a roof vent. This air is not in contact with combustion or combustion byproducts. All three sections of the Kiln exhaust to the Dry Limestone Adsorber (Stack #1). The maximum hourly finished-product brick production capacity is 7.0 ton/hr.

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.

For control of HF, HCl, and Cl_2 emissions from the Brick Kiln, Morin Brick utilizes a dry limestone adsorber (DLA). The DLA system operation begins with the gas 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

   Natural Gas

$PM/PM_{10}/PM_{2.5}$	– 0.5 lb/ton of product; A-209-70-C-A (06/14/2004), BPT
SO_2	– 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	– 1.20 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
HF/HAP	– 0.12 lb/ton of product; A-209-70-C-A (06/14/2004), BPT
Visible Emissions	– 06-096 C.M.R. ch. 101

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

Unit	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)	HAP (lb/hr)
Brick Kiln	3.5	3.5	3.5	4.69	2.45	8.40	0.17	0.84

2. Visible Emissions

   Visible emissions from the Brick Kiln shall not exceed 20% opacity on a six-minute block average basis.

3. Production Limitation

   With a maximum finished-product production rate of 7.0 tons/hour, Morin Brick shall be limited to production of no more than 61,320 tons of finished-product brick per year.

4. Periodic Monitoring

   Periodic monitoring for the Brick Kiln shall include record keeping to document fuel use, brick additive use, and brick throughput both on a monthly and a calendar year total basis. [06-096 C.M.R. ch. 115, BPT]

   Morin Brick shall operate the DLA whenever the Brick Kiln is in operation. The DLA bypass shall be kept shut except when the Brick Kiln is not in operation and maintenance requires it to be open. Morin Brick shall confirm the bypass is shut and record the bypass valve position when checking the pressure drop across the DLA. The DLA bypass may be opened during Brick Kiln operation only during an emission stack test with written authorization from the Department. Morin Brick must still comply at all times with the emission limits listed in the table above, whether a DLA bypass is authorized by the Department or the bypass is closed. [06-096 C.M.R. ch. 115, BPT]

   Periodic monitoring for the DLA shall include continuous monitoring of the DLA inlet temperature and pressure drop and recording of this data at least once per shift of operation. Based on stack testing results, these values are to verify the effective operation of the DLA and exhaust coming from the kiln. [06-096 C.M.R. ch. 115, BPT]

   Morin Brick shall keep records of all maintenance performed on the DLA, limestone usage per unit of production, and the weight and frequency of discharged material from the DLA. The discharged material shall be accumulated in a hopper. When the hopper is ready for emptying, the date and

time, and weight of discharged material shall be recorded. [06-096 C.M.R. ch. 115, BPT]

Initial DLA testing shall be conducted in calendar year 2026 and shall consist of HF, HCl, Cl_2, and PM testing of exhaust from the stack after passing through the DLA. Testing for HF, HCl, and Cl_2 shall use 40 C.F.R. Part 60, Appendix A, Method 26A, and testing for PM shall use 40 C.F.R. Part 60, Appendix A, Method 5, or other methods as approved by the Department. [06-096 C.M.R. ch. 115, BPT]

In the emission test protocol, Morin Brick shall identify and submit the method used to quantify limestone addition to and removal from the DLA system per unit of production. [06-096 C.M.R. ch. 115, BPT]

During the initial test, parameters including but not limited to the following shall be monitored and recorded:

- Inlet temperature and pressure drop across the DLA, monitored and recorded every 5 minutes to establish control equipment operational parameters;
- Limestone addition and removal rates shall be monitored and recorded as they occur during testing; and
- Production parameters, to provide a rate of final product brick tons/hour throughput.

To address representative performance requirements, the process shall be operated at “maximum normal” production rates which will set the production baseline. In the future, if production rates exceed the rate established during the stack test, Morin Brick may be required to retest.
[06-096 C.M.R. ch. 115, BPT]

Morin Brick shall conduct HF and HCl emissions testing of the DLA exhaust once every five calendar years after initial testing using 40 C.F.R. Part 60, Appendix A, Method 26A or other method as approved by the Department. [06-096 C.M.R. ch. 115, BPT]

5. 40 C.F.R. Part 63, Subpart JJJJJ

The *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Brick and Structural Clay Products*, 40 C.F.R. Part 63, Subpart JJJJJ, is not applicable to this facility. Use of the DLA restricts the emissions of HAP from the facility to below major HAP source thresholds.

As the last reported testing for HAP precursors was conducted in 2002, Morin Brick shall have representative samples of dried bricks and fired bricks tested by a third party in calendar year 2026 to identify and quantify the presence of fluoride and chlorides and establish emission rates for HF, HCl, and Cl_2. Morin Brick must notify the Department within 30 days of when the samples are sent for testing. Morin Brick must submit the results to the Department within 60 days of sending samples out for analysis. If the presence of chlorides is detected and/or the emission rate of HF is determined to be greater than the rates from previous testing, Morin Brick must apply for an air emission license amendment to properly address the higher emission rates within 90 days of the determination.

G. General Process Emissions

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis.

H. Fugitive Visible Emissions

Morin Brick shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

Morin Brick shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

I. Performance Test Protocol

For any performance testing required by this license, Morin Brick shall submit to the Department a performance test protocol, as outlined in the Department's Performance Testing Guidance, at least 30 days prior to the scheduled date of the performance test. [06-096 C.M.R. ch. 115, BPT]

Performance Testing Guidance is available on the Department's Emissions Testing webpage; https://www.maine.gov/dep/air/emissions/testing.html.

J. Emissions Statements

Morin Brick is subject to emissions inventory requirements contained in *Emission Statements*, 06-096 C.M.R. ch. 137. Morin Brick shall maintain the following records in order to comply with this rule:

1. Kiln throughput on a monthly basis;
2. Calculations of the VOC and/or HAP emissions from the Kiln and Dryers on a calendar year total basis; and
3. Fuel use in FHA #1 on a monthly basis.

Every third year, or as requested by the Department, Morin Brick shall report to the Department emissions of hazardous air pollutants as required pursuant to 06-096 C.M.R. ch. 137, § (3)(C). The next report is due no later than May 15, 2027, for emissions occurring in calendar year 2026. The Department will use these reports to calculate and invoice for the applicable annual air quality surcharge for the subsequent three billing periods. Morin Brick shall pay the annual air quality surcharge, calculated by the Department based on these reported emissions of hazardous air pollutants, by the date required in Title 38 M.R.S. § 353-A(3).
[38 M.R.S. § 353-A(1-A)]

K. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on the following assumptions:

- A finished-product brick/production throughput of 7.0 ton/hr and 61,320 ton/year;
- Use of 2,500 gal/year of distillate fuel;
- Operating FHA #1 for 8,760 hr/yr.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

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

	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC
FHA #1	0.3	0.3	0.3	-	0.5	0.5	-
Brick Drying & Extrusion Vaporization	13.1	13.1	13.1	-	3.0	9.5	9.7
Brick Kiln	15.3	15.3	15.3	20.5	10.7	36.8	0.7
Total TPY	**28.7**	**28.7**	**28.7**	**20.5**	**14.2**	**46.8**	**10.4**

Pollutant	Tons/year
Single HAP	7.9
Total HAP	19.9

III. Ambient Air Quality Analysis

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

Pollutant	Tons/Year
PM_{10}	25
$PM_{2.5}$	15
SO_2	50
NO_x	50
CO	250

The total annual licensed emissions for the facility are above at least one of the emission levels contained in the table above due to changes to this table since previous licensing actions. However, the current licensing action makes no changes that would result in increased emissions. Therefore, the Department has determined that an ambient air quality impact analysis is not required at this time.

This determination is based on information provided by the applicant regarding licensed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.) deviates from what was included in the application, the Department may require Morin Brick to submit additional information and may require an ambient air quality impact analysis at that time.

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-I-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof 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. § 347-C).

(2) The licensee shall acquire a new or amended air emission license prior to beginning actual construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115] Payment of the annual air emission license fee for Morin Brick is due by the end of August of each year. [38 M.R.S. § 353-A(3)]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. 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 C.F.R. 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 C.M.R. ch. 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 the written test report by the Department, or another alternative timeframe approved by the Department, 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 C.F.R. 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 C.M.R. ch. 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 license requirement. [06-096 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 115]

(16) The licensee 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. § 605).

Specific Conditions

(17) **FHA #1**

A. FHA #1 is licensed to fire only natural gas. [06-096 C.M.R. ch. 115, BACT]

B. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
FHA #1	0.06	0.06	0.06	-	0.12	0.10	0.01

C. Visible emissions from FHA #1 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(A)(3)]

D. Morin Brick shall maintain records to document fuel use both on a monthly and a calendar year total basis. [06-096 C.M.R. ch. 115, BACT]

(18) **Brick Drying Operation**

A. The Brick Dryer and Batch Dryer shall each only fire natural gas. [06-096 C.M.R. ch.115, BPT]

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

C. Visible emissions from the Brick Dryer and Batch Dryer shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(B)(4)]

D. Morin Brick shall not exceed the combined use of 2,500 gallons per year of clean, hydraulic oil as an extrusion lubricant. Morin Brick shall keep records of the amount of oil used for this purpose. [06-096 C.M.R. ch. 115, BPT]

(19) **Brick Kiln**

A. The Brick Kiln shall be limited to the firing of natural gas only. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)	HAP (lb/hr)
Brick Kiln	3.5	3.5	3.5	4.69	2.45	8.40	0.17	0.84

C. Visible emissions from the Brick Kiln shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(B)(4)]

D. Morin Brick shall operate the Dry Limestone Adsorber (DLA) whenever the Brick Kiln is in operation. The DLA bypass shall be kept shut except when the Brick Kiln is not in operation and maintenance requires it to be open. Morin Brick shall confirm the bypass is shut and record the bypass valve position when checking the pressure drop across the DLA. The DLA bypass may be opened during Brick Kiln operation only during an emission stack test with written authorization from the Department. Morin Brick must still comply at all times with the emission limits listed in the table above, whether a DLA bypass is authorized by the Department or the bypass is closed. [06-096 C.M.R. ch. 115, BPT]

E. Morin Brick shall continuously monitor, and record once per shift of operation, the DLA inlet temperature and pressure drop. [06-096 C.M.R. ch. 115, BPT]

F. Morin Brick shall keep records of all routine and non-routine maintenance and repairs performed on the DLA. [06-096 C.M.R. ch. 115, BPT]

G. Morin Brick shall keep records of limestone usage per unit of production and the weight and frequency of discharged material from the DLA. The discharged material shall be accumulated in a hopper. When the hopper is ready for emptying, the date and time, and weight of discharged material shall be recorded. [06-096 C.M.R. ch. 115, BPT]

H. Morin Brick shall maintain monthly records indicating the name/type and amount of each brick additive purchased and weight percent HAP for each. [06-096 C.M.R. ch. 115, BPT]

I. Initial DLA testing shall be conducted in calendar year 2026 and shall consist of HF, HCl, Cl_2, and PM testing of exhaust from the stack after passing through the DLA. Testing for HF, HCl, and Cl_2 shall use 40 C.F.R. Part 60, Appendix A, Method 26A, and testing for PM shall use method 40 C.F.R. Part 60, Appendix A, Method 5, or other methods as approved by the Department. [06-096 C.M.R. ch. 115, BPT]

J. In the emission test protocol, Morin Brick shall identify and submit the method used to quantify limestone addition to and removal from the DLA system per unit of production. [06-096 C.M.R. ch. 115, BPT]

K. During the initial test, parameters including but not limited to the following shall be monitored and recorded:

- Inlet temperature and pressure drop across the DLA, monitored and recorded every 5 minutes to establish control equipment operational parameters;
- Limestone addition and removal rates shall be monitored and recorded as they occur during testing; and
- Production parameters must be monitored during testing to provide an estimated rate of brick tons/hour throughput.

To address representative performance requirements, the process shall be operated at “maximum normal” production rates which will set the production baseline. In the future, if production rates exceed the rate established during the stack test, Morin Brick may be required to retest.
[06-096 C.M.R. ch. 115, BPT]

L. Morin Brick shall conduct HF, HCl, and Cl_2 emissions testing of the DLA exhaust once every five calendar years after initial testing using 40 C.F.R. Part 60, Appendix A, Method 26A or other method as approved by the Department. [06-096 C.M.R. ch. 115, BPT]

M. Morin Brick shall have representative samples of dried bricks and fired bricks tested by a third party in calendar year 2026 to identify and quantify the presence of fluoride and chlorides and establish emission rates for HF, HCl, and Cl_2. Morin Brick must let the Department know within 30 days of when the samples are sent for testing. Morin Brick must submit the results to the

Department within 60 days of sending samples out for analysis. If the presence of chlorides are detected and/or the emission rate of HF is determined to be greater than the rates previously established, Morin Brick must file for an air emissions license amendment to properly address the higher emission rates within 90 days of such a determination. [06-096 C.M.R. ch. 115, BPT]

(20) **Process Limit**

Morin Brick shall not exceed an annual calendar year finish-product brick production limit of 61,320 tons per year, equivalent to 7 tons per hour. Morin Brick shall maintain monthly records of finished-product brick throughput. [06-096 C.M.R. ch. 115, BPT]

(21) **General Process Sources**

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(B)(4)]

(22) **Fugitive Visible Emissions** [06-096 C.M.R. ch. 101, § 4(C)]

A. Morin Brick shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

B. Morin Brick shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

(23) **Performance Test Protocol**

For any performance testing required by this license, Morin Brick shall submit to the Department a performance test protocol, as outlined in the Department's Performance Testing Guidance, at least 30 days prior to the scheduled date of the performance test. [06-096 C.M.R. ch. 115, BPT]

(24) **Annual Emissions Statements**

A. In accordance with *Emission Statements*, 06-096 C.M.R. ch. 137, Morin Brick shall annually report to the Department, in a format prescribed by the Department, the information necessary to accurately update the State's emission inventory. The emission statement shall be submitted as specified by the date in 06-096 C.M.R. ch. 137.

B. Morin Brick shall keep the following records in order to comply with 06-096 C.M.R. ch. 137:

1. Kiln throughput on a monthly basis;
2. Calculations of the VOC and/or HAP emissions from the Kiln and Dryers on a calendar year total basis; and
3. Fuel use in FHA #1 on a monthly basis.

[06-096 C.M.R. ch. 137]

C. Every third year, or as requested by the Department, Morin Brick shall report to the Department emissions of hazardous air pollutants as required pursuant to 06-096 C.M.R. ch. 137, § (3)(C). The next report is due no later than May 15, 2027, for emissions occurring in calendar year 2026. Morin Brick shall pay the annual air quality surcharge, calculated by the Department based on these reported emissions of hazardous air pollutants, by the date required in Title 38 M.R.S. § 353-A(3). [38 M.R.S. § 353-A(1-A)]

(25) **Additional Information**

If the Department determines that any parameter value pertaining to construction and operation of the emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, Morin Brick may be required to submit additional information. Upon written request from the Department, Morin Brick shall provide information necessary to demonstrate ambient air quality standards (AAQS) will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter. [06-096 C.M.R. ch. 115, § 2(O)]

Done and Dated in Augusta, Maine this 28th day of JULY, 2026.

Department of Environmental Protection

BY: _____
for Melanie Loyzim, Commissioner

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

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

Please note attached sheet for guidance on appeal procedures.

Date of initial receipt of application: May 28, 2024
Date of application acceptance: May 28, 2024

This Order prepared by Zac Hicks, Bureau of Air Quality.