



DEPARTMENT ORDER

**Lepage Bakeries Park Street LLC
 Androscoggin County
 Lewiston, Maine
 A-968-71-E-R/A**

**Departmental
 Findings of Fact and Order
 Air Emission License
 Renewal and
 After-the-Fact Amendment**

FINDINGS OF FACT

After review of the air emission license renewal 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

Lepage Bakeries Park Street LLC (Lepage) has applied to renew their Air Emission License for the operation of emission sources associated with their baked goods production facility. Lepage has also requested an amendment to their license to replace Boilers #1 and #2 after-the-fact, since the replacement boilers are already in operation at the facility.

The equipment addressed in this license is located at 354 Lisbon Street, Lewiston, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Process Equipment

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Bread Oven	6.4	6,067 scf/hr	Natural gas	1972	1972	CatOx
Roll Oven	2.8	2,667 scf/hr	Natural gas	1997	1998	CatOx
Catalytic Oxidizer #1	1.2	1,143 scf/hr	Natural gas	2013	2013	CatOx

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Boiler #1*	1.7	1,600 scf/hr	Natural gas	2014	2014	Blr 1
Boiler #2*	1.7	1,600 scf/hr	Natural gas	2015	2015	Blr 2

* New to the license, replacing two units previously licensed as Boiler #1 and Boiler # 2, of the same input capacity and firing the same fuel.

Stationary Engine

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Fuel Type	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Generator #1	8.8	900	Distillate fuel	63.9	2006	2007

Lepage may operate small stationary engines smaller than 0.5 MMBtu/hr. These engines are considered insignificant activities and are not required to be included in this license. However, they are still subject to applicable State and Federal regulations. More information regarding requirements for small stationary engines is available on the Department's website at the link below.

<http://www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf>

Additionally, Lepage may operate portable engines used for maintenance or emergency-only purposes. These engines are considered insignificant activities and are not required to be included in this license. However, they may still be subject to applicable State and Federal regulations.

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.

Portable or Non-Road Engine means an internal combustion engine which is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. This definition does NOT include engines which remain or will remain at a location (excluding storage locations) for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

An engine is not a non-road (portable) engine if it remains or will remain at a location for more than 12 consecutive months or for a shorter period of time if sited at a seasonal source. A seasonal source is a source that remains in a single location for two years or more and

which operates for fewer than 12 months in a calendar year. If an engine operates at a seasonal source for one entire season, the engine does not meet the criteria of a non-road (portable) engine and is subject to applicable stationary engine requirements.

Records or Logs mean either hardcopy or electronic records.

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.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emission” 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 Emission Levels
PM	3.3	3.2	-0.1	100
PM ₁₀	3.3	3.2	-0.1	100
PM _{2.5}	--	3.2	3.2	100
SO ₂	0.1	-- ¹	-0.1	100
NO _x	8.7	7.2	-1.5	100
CO	6.7	5.2	-1.5	100
VOC	24.3	24.0	-0.3	100

This modification is determined to be a minor modification and has been processed as such.

The application for Lepage includes both the license renewal and the installation of new equipment. Therefore, the license is considered to be a renewal of currently licensed emission units and an after-the-fact 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.

¹ The total estimated sum of SO₂ from all sources adds up to 0.035 tpy.

E. Facility Classification

With the production limits to the baking process, and the operating hours restriction on the emergency generators, the facility is licensed as follows:

- As a synthetic minor source of air emissions for criteria pollutants, because Lepage is subject to license restrictions that keep facility emissions below major source thresholds for NO_x 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. Bakery Ovens and Catalytic Oxidizer #1 (VOC Emissions)

Lepage operates two Bakery Ovens, the Bread Oven and Roll Oven, and Catalytic Oxidizer #1 for their baked goods production. Lepage uses yeast to leaven the dough in the baking process of certain products at their facility.

The primary VOC emitted from bakery operation is ethanol. In yeast-leavened bread products, yeast metabolizes sugar through anaerobic fermentation producing both carbon dioxide and ethanol, as well as small amounts of other alcohols, esters, and aldehydes. Ethanol is a VOC which remains in a liquid state in the bread through the pre-baking process (at temperatures below 170 °F) and is not emitted in appreciable amounts until it vaporizes when the dough is exposed to high temperatures in the oven.

Lepage uses the classic “straight dough” process for certain products. This process utilizes higher yeast contents than other commercial dough processes with longer spiking yeast action times, which result in quantities of VOC emissions from the two ovens requiring add-on control technology. Lepage uses a natural gas-fired Catalytic Oxidizer #1 with a destruction efficiency of at least 95% to control VOC emissions from the ovens, required as BACT in license amendment A-968-71-D-A (May 7, 2014).

1. BPT Findings

The BPT emissions limits for VOC in the baking process are based on the equation in AP-42 Section 9.9.6 dated 2/97.

$$\text{VOC [lb/ton of finished product from the oven]} = 0.95Y_i + 0.195t_i - 0.51S - 0.86t_s + 1.90$$

Where:

- Y_i = Initial baker’s percent of yeast²
- t_i = Total yeast action time in hours³
- S = Final (spike) baker’s percent of yeast⁴
- t_s = Spiking time in hours⁵

The VOC emission limits for the Bakery Ovens based on Lepage’s maximum yearly production values and the AP-42 equation before and after Catalytic Oxidizer #1 are the following:

Unit	AP-42 Emission Factor (lb/ton)	Max. Yearly Production Value (tons)	Max Annual Emissions Pre-Control (tpy)	Annual Emissions After Control (tpy)
Bread Oven	11.71	56,082	328.4	16.4
Roll Oven	10.48	28,246	148.0	7.4
Total		84,328	476.4	23.8

² “Baker’s percent” of an ingredient in a bread formula refers to the weight of that ingredient per 100 lb of flour in the formula. Source: AP-42 Section 9.9.6 Bread Baking; https://www.epa.gov/sites/production/files/2020-10/documents/rel_c09s0906.pdf

³ Total yeast action time” is the total time that the initial yeast is actively fermenting; it starts when the yeast is mixed with water and ends when the product enters the oven.

⁴ “Spike yeast” is any yeast added to the dough beyond the initial yeast added to the dough; this may be zero depending on the bakery and formula used.

Source: [K.A.R. 28-19-717. CONTROL OF VOLATILE ORGANIC COMPOUND \(VOC\) EMISSIONS FROM COMMERCIAL BAKERY OVENS IN JOHNSON AND WYANDOTTE COUNTIES. \(epa.gov\)](#)

⁵ “Spiking time” means the elapsed time between the addition of the spike yeast to the dough and the placement of the dough into the oven. Source: same as for previous footnote.

Lepage shall maintain records of baking production in each yeast leavened production line. Records shall include the following:

- a. Initial yeast (expressed as baker's percent);
- b. Total fermentation time in hours (yeast action time);
- c. Final (spike) yeast (expressed as baker's percent);
- d. Spiking yeast action time in hours;
- e. Ethanol emission factor (lbs VOC/ton product); and
- f. Total amount of product produced (tons).

Lepage shall calculate and record total VOC emissions from yeast leavened products from the ovens every calendar month and on a 12-month rolling total basis using the above equation.

Lepage shall keep records of production amounts from each oven documenting the type and quantity of product from the Bread Oven and Roll Oven.

2. Periodic Monitoring

Lepage shall operate the Catalytic Oxidizer #1 such that it achieves a VOC destruction efficiency of at least 95%. Compliance with the required destruction efficiency shall be demonstrated by stack testing of Catalytic Oxidizer #1 every five calendar years. Testing shall be conducted in accordance with EPA Test Method 25A or other method approved by the Department. Lepage shall establish and adhere to temperature ranges as established during the testing.

Lepage shall submit to the Department for approval 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.

Lepage shall monitor and record the following as specified, for Catalytic Oxidizer #1:

Parameter for Catalytic Oxidizer #1	Monitor	Record
Inlet temperature to the catalytic oxidizer	Continuously*	Continuously*
Outlet temperature from the catalytic oxidizer	Continuously*	Continuously*

* Continuously means monitoring and recording at least one reading per minute that are then averaged hourly.

Lepage shall perform annual core testing of the catalyst and replace the catalyst material in accordance with the manufacturer's recommendations.

C. Bakery Ovens and Catalytic Oxidizer #1 (Combustion)

The Bread Oven, Roll Oven, and Catalytic Oxidizer #1 all fire natural gas. The Bread Oven has a heat input of 6.4 MMBtu/hr and was manufactured and installed in 1972. The Roll Oven has a heat input of 2.8 MMBtu/hr and was manufactured in 1997 and installed in 1998. Catalytic Oxidizer #1 has a heat input of 1.2 MMBtu/hr and was manufactured and installed in 2013. Both Bakery Ovens and Catalytic Oxidizer #1 exhaust through a common stack, CatOx Stack.

1. BPT Findings

The BPT emission limits for fuel combustion in the Bread Oven, Roll Oven, and Catalytic Oxidizer #1 were based on the following:

Natural Gas

- PM/PM₁₀/PM_{2.5} – 0.05 lb/MMBtu based on 06-096 C.M.R. ch. 115, BPT
 - SO₂ – 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 – 06-096 C.M.R. ch. 101
- Emissions

The BPT emission limits for the Bread Oven, Roll Oven, and Catalytic Oxidizer #1 are the following:

Unit	Pollutant	lb/MMBtu
Bread Oven (Combustion)	PM	0.05
Roll Oven (Combustion)	PM	0.05
Catalytic Oxidizer #1	PM	0.05

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)
Bread Oven (Combustion)	0.32	0.32	0.32	0.004	0.61	0.51	0.03
Roll Oven (Combustion)	0.14	0.14	0.14	0.002	0.27	0.22	0.01
Catalytic Oxidizer #1	0.06	0.06	0.06	0.001	0.11	0.10	0.01

2. Visible Emissions

Visible emissions from the CatOx Stack shall not exceed 10% opacity on a six-minute block average basis.

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

The Bakery Ovens and Catalytic Oxidizer #1 are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, because they are not boilers. [40 C.F.R. § 60.40c]

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

The Bakery Ovens and Catalytic Oxidizer #1 are 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 JJJJJ, because they are not boilers. [40 C.F.R. §§ 63.11193 and 63.11195]

D. Boilers #1 and #2

Lepage operates Boilers #1 and #2 for hot water. Boilers #1 and #2 are each rated at 1.7 MMBtu/hr and fire natural gas. Boiler #1 was manufactured and installed in 2014. Boiler #2 was manufactured and installed in 2015. Boilers #1 and #2 are considered after-the-fact additions to the license. The boilers exhaust through their own stacks.

1. BACT Findings

Following is a BACT analysis for control of emissions from Boilers #1 and #2.

a. Particulate Matter (PM, PM₁₀, PM_{2.5})

Lepage burns only low-ash content fuels (natural gas) in Boilers #1 and #2. Additional add-on pollution controls are not economically feasible.

BACT for PM/PM₁₀/PM_{2.5} emissions from Boilers #1 and #2 is the emission limits listed in the tables below.

b. Sulfur Dioxide (SO₂)

Lepage burns only natural gas in Boilers #1 and #2. The use of this fuel results in minimal emissions of SO₂, and additional add-on pollution controls are not economically feasible.

BACT for SO₂ emissions from Boilers #1 and #2 is the firing of natural gas and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)

Possible control strategies for the control of NO_x include Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), water/steam injection, flue gas recirculation (FGR), and use of good combustion and maintenance practices.

Both SCR and SNCR are technically feasible control technologies for minimizing NO_x. Both methods include injection of a NO_x reducing agent, typically ammonia or urea, into the boiler combustion gases, where the reagent reacts with NO_x to form nitrogen and water vapor. Each technology is effective within a specific temperature range depending on the specific design, 500 – 1,200 °F for SCR and 1,400 – 1,600 °F for SNCR. However, both SCR and SNCR have the negative environmental impact of emissions of unreacted ammonia. In addition, due to the initial capital cost and the annual operating costs, these systems are typically only considered cost effective for units larger than Boilers #1 and #2.

Water/steam injection and FGR can attain similar NO_x reduction efficiencies through lowering burner flame temperature and thereby reducing thermal NO_x formation. However, both NO_x control strategies reduce the boiler's fuel efficiency.

BACT for NO_x emissions from Boilers #1 and #2 is the use of good combustion and maintenance practices and the emission limits listed in the tables below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

Possible control strategies for the control of CO and VOC include oxidation catalysts, thermal oxidizers, and use of good combustion and maintenance practices.

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

BACT for CO and VOC emissions from Boilers #1 and #2 is the use of good combustion and maintenance practices and the emission limits listed in the tables below.

e. Emission Limits

The BACT emission limits for Boilers #1 and #2 were based on the following:

Natural Gas

PM/PM ₁₀ /PM _{2.5}	–	0.05 lb/MMBtu based on 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 Boilers #1 and #2 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)
Boiler #1	0.08	0.08	0.08	0.001	0.16	0.13	0.01
Boiler #2	0.08	0.08	0.08	0.001	0.16	0.13	0.01

2. Visible Emissions

Visible emissions from Boilers #1 and #2 shall each not exceed 10% opacity on a six-minute block average basis.

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

Due to their size, Boilers #1 and #2 are not subject to 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]

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

Boilers #1 and #2 are not subject to the 40 C.F.R. Part 63, Subpart JJJJJ. Boilers #1 and #2 are natural-gas fired boilers, and gas-fired boilers are exempt from 40 C.F.R. Part 63, Subpart JJJJJ. [40 C.F.R. §§ 63.11193 and 63.11195]

E. Generator #1

Lepage operates one emergency generator. Generator #1 is a generator set consisting of an engine and an electrical generator. The emergency generator has an engine rated at 8.8 MMBtu/hr which fires distillate fuel. Generator #1 was manufactured in 2006 and installed in 2007.

The emission limits for NO_x and CO in the previous license (A-968-B-N/A) were based on the New Source Performance Standards (NSPS) limits in 40 C.F.R. Part 60, Subpart IIII. These NSPS limits typically use a compliance method including a weighted average of emissions over a range of load cases, which means that actual emissions in certain operating scenarios may be higher than the NSPS limit. To be sure that the licensed emission limits for Generator #1 are realistically achievable, the emissions limits for NO_x and CO for this unit will be revised in this amendment as summarized below.

1. BPT Findings

The BPT emission limits for Generator #1 are based on the following:

- PM/PM₁₀/PM_{2.5} – 0.12 lb/MMBtu from 06-096 C.M.R. ch. 103
- SO₂ – Combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x – 3.2 lb/MMBtu from AP-42 Table 3.4-1 dated 10/96
- CO – 0.85 lb/MMBtu from AP-42 Table 3.4-1 dated 10/96
- VOC – 0.09 lb/MMBtu from AP-42 Table 3.4-1 dated 10/96
- Visible Emissions – 06-096 C.M.R. ch. 101

The BPT emission limits for Generator #1 are the following:

Unit	Pollutant	lb/MMBtu
Generator #1	PM	0.12

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)
Generator #1	1.05	1.05	1.05	0.01	28.00	7.44	0.79

Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis.

BPT for Generator #1 includes recordkeeping of all maintenance conducted on the engine.

2. Chapter 169

Generator #1 was installed prior to the effective date of *Stationary Generators*, 06-096 C.M.R. ch. 169 and is therefore exempt from this rule pursuant to section 1.

3. New Source Performance Standards

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart III is applicable to the emergency engine listed above since the unit was ordered after July 11, 2005, and manufactured after April 1, 2006. [40 C.F.R. § 60.4200] By meeting the requirements of 40 C.F.R. Part 60, Subpart III, the unit also meets the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

A summary of the currently applicable federal 40 C.F.R. Part 60, Subpart III requirements is listed below.

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart III, a stationary reciprocating internal combustion engine (ICE) is considered an **emergency** stationary ICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 60, Subpart III, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE more than 100 hours per calendar year.
- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 C.F.R. §§ 60.4211(f) and 60.4219]

b. 40 C.F.R. Part 60, Subpart III Requirements

(1) Manufacturer Certification Requirement

The engine, which is a pre-2007 model, shall comply with the emission standards in Table 1, which are listed below. [40 C.F.R. § 60.4205(a)]

Pollutant	g/HP-hr
HC	1.0
NO _x	6.9
CO	8.5
PM	0.40

Lepage has provided EPA Tier 2 Emission Compliance Statement that shows that the engine meets the requirements in the table above.

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in the engine shall not exceed 15 ppm sulfur (0.0015% sulfur). [40 C.F.R. § 60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4209(a)]

(4) Operation and Maintenance Requirements

The engine shall be operated and maintained according to the manufacturer's emission-related written instructions. Lepage may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)]

Lepage shall have available for review by the Department a copy of the manufacturer's emission-related written instructions for engine operation and maintenance. [06-096 C.M.R. ch. 115, BPT]

(5) Annual Time Limit for Maintenance and Testing

As an emergency engine, the unit shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). [40 C.F.R. § 60.4211(f)]

(6) Initial Notification Requirement

No initial notification is required under 40 C.F.R. Part 60, Subpart IIII for emergency engines. [40 C.F.R. § 60.4214(b)]

(7) Recordkeeping

Lepage shall keep records that include the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

F. Parts Washer

The Parts Washer has a design capacity of ten gallons and uses a solvent with more than 5% VOC content. The Parts Washer is subject to *Solvent Cleaners*, 06-096 C.M.R. ch. 130 and records shall be kept documenting compliance.

This equipment is exempt from *Industrial Cleaning Solvents*, 06-096 C.M.R. ch. 166 pursuant to Section (3)(B).

G. VOC RACT

Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds, 06-096 C.M.R. ch. 134 (VOC RACT) is applicable to sources that have the potential to emit quantities of VOC equal to or greater than 40 tons/year from non-exempt equipment. Amendment A-968-71-D-A, issued to the facility on May 7, 2014, addressed VOC RACT requirements. The Bread Oven and Roll Oven were determined to be meeting VOC RACT. The VOC RACT requirements are incorporated in this renewal.

H. 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:

- Operating the Bread Oven, Roll Oven, Catalytic Oxidizer #1, and the Boilers for 8,760 hr/yr;
- Operating each Generator #1 for 100 hrs/yr;
- Yearly production of 56,082 tons in the Bread Oven, 28,246 tons in the Roll Oven, based on a 12-month rolling total basis; and
- Assumed 95% destruction efficiency for the VOC emissions from the Bakery Ovens.

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
Bread Oven (Combustion)	1.4	1.4	1.4	--	2.7	2.2	0.1
Roll Oven (Combustion)	0.6	0.6	0.6	--	1.2	1.0	0.1
Bread Oven (Vent)	--	--	--	--	--	--	16.4
Roll Oven (Vent)	--	--	--	--	--	--	7.4
Boiler #1	0.4	0.4	0.4	--	0.7	0.6	--
Boiler #2	0.4	0.4	0.4	--	0.7	0.6	--
Catalytic Oxidizer #1	0.3	0.3	0.3	--	0.5	0.4	--
Generator #1	0.1	0.1	0.1	--	1.4	0.4	--
Total TPY	3.2	3.2	3.2	--⁶	7.2	5.2	24.0

⁶ The total estimated sum of SO₂ from all sources adds up to 0.035 tpy.

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

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 licensed annual emissions for the facility 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.

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 Lepage 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 Renewal and Amendment A-968-71-E-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]

- (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). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(17) **Bakery Ovens and Catalytic Oxidizer #1 (VOC Emissions)**

- A. Total VOC emissions from the baking process in Bread Oven and Roll Oven shall not exceed 23.8 tons per year on a 12-month rolling total basis. This does not include VOC emissions from the combustion in the Bread Oven, Roll Oven, and Catalytic Oxidizer #1, which is discussed in Specific Condition 18. [06-096 C.M.R. ch. 115, BPT]
- B. Lepage shall maintain records of baking production in each yeast leavened production line. Records shall include the following:
1. Initial yeast (expressed as baker's percent);
 2. Total fermentation time in hours (yeast action time);
 3. Final (spike) yeast (expressed as baker's percent);
 4. Spiking yeast action time in hours;
 5. Ethanol emission factor (lbs VOC/ton product); and
 6. Total amount of product produced (tons).

Lepage shall calculate and record total VOC emissions from the yeast leavened products from the ovens every calendar month and on a 12-month rolling total basis using the following equation:

$$\text{VOC [lb/ton dough baked]} = 0.95Y_i + 0.195t_i - 0.51S - 0.86t_s + 1.90$$

Where:

- Y_i = Initial baker's percent of yeast
 t_i = Total yeast action time in hours
 S = Final (spike) baker's percent of yeast
 t_s = Spiking yeast action time in hours

[06-096 C.M.R. ch. 115, BPT]

- C. Lepage shall keep records of production amounts from each oven documenting the type and quantity of product put through the Bread Oven and Roll Oven. [06-096 C.M.R. ch. 115, BPT]

- D. Lepage shall operate the Catalytic Oxidizer #1 such that it achieves a VOC destruction efficiency of at least 95%. Compliance shall be demonstrated by stack testing of Catalytic Oxidizer #1 every five years. Testing shall be conducted in accordance with EPA Test Method 25A or other method approved by the Department. Lepage shall establish and adhere to temperature ranges as established during the testing. [06-096 C.M.R. ch. 115, BPT]

Lepage shall submit to the Department for approval 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]

- E. Lepage shall monitor and record the following as specified, for Catalytic Oxidizer #1:

Parameter for Catalytic Oxidizer #1	Monitor	Record
Inlet temperature to the catalytic oxidizer	Continuously*	Continuously*
Outlet temperature from the catalytic oxidizer	Continuously*	Continuously*

* Continuously means monitoring and recording at least one reading per minute that are then averaged hourly.

[06-096 C.M.R. ch. 115, BPT]

- F. Lepage shall perform annual core testing of the catalyst and replace the catalyst material in accordance with the manufacturer's recommendations. [06-096 C.M.R. ch. 115, BPT]
- G. Catalytic Oxidizer #1 shall be operated and maintained according to the manufacturer's specifications.
- H. Lepage shall maintain records of the date and number of hours of each malfunction or breakdown event for Catalytic Oxidizer #1. Lepage shall calculate and record uncontrolled VOC emissions for each Bakery Oven during each malfunction or breakdown.
- I. For the equipment parameter monitoring (catalytic oxidizer inlet and outlet temperature) and recording required by this license, the licensee shall maintain records of the most current six-year period, and the records shall include:
1. Documentation which shows monitoring operational status during all source operating time, including specifics for calibration and audits;
 2. Catalytic Oxidizer #1 inlet and outlet temperature data, which shall be made available to the Department upon request;

3. Records of performance tests demonstrating the destruction efficiency of the Catalytic Oxidizer #1 including the minimum inlet temperature to the oxidizer catalytic bed and initial destruction efficiency including operational information affecting the capture of the unit; and
4. Records of annual core testing of oxidizer catalyst.

J. The VOC emission limits for the Bakery Ovens combined shall not exceed 23.8 tons per year after control.

(18) Bakery Ovens and Catalytic Oxidizer #1 (Combustion)

A. The Bakery Ovens and Catalytic Oxidizer #1 are licensed to fire natural gas. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Bread Oven	PM	0.05	06-096 C.M.R. ch. 115, BPT
Roll Oven	PM	0.05	06-096 C.M.R. ch. 115, BPT
Catalytic Oxidizer #1	PM	0.05	06-096 C.M.R. ch. 115, BPT

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

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)
Bread Oven (Combustion)	0.32	0.32	0.32	0.004	0.61	0.51	0.03
Roll Oven (Combustion)	0.14	0.14	0.14	0.002	0.27	0.22	0.01
Catalytic Oxidizer #1	0.06	0.06	0.06	0.001	0.11	0.10	0.01

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

(19) Boilers #1 and #2

A. Boilers #1 and #2 are licensed to fire 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)
Boiler #1	0.08	0.08	0.08	0.001	0.16	0.13	0.01
Boiler #2	0.08	0.08	0.08	0.001	0.16	0.13	0.01

C. Visible emissions from Boilers #1 and #2 shall each not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(A)(3)]

(20) **Generator #1**

A. Generator #1 is licensed to fire distillate fuel. [06-096 C.M.R. ch. 115, BPT]

B. Lepage shall keep records of all maintenance conducted on the engine associated with Generator #1. [06-096 C.M.R. ch. 115, BPT]

C. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)

D. 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)
Generator #1	1.05	1.05	1.05	0.01	28.00	7.44	0.79

E. Visible Emissions

Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101 § 4(A)(4)]

F. Generator #1 shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart III, including the following:
[incorporated under 06-096 C.M.R. ch. 115, BPT]

1. **Manufacturer Certification**

The engine shall comply with the emission standards listed below.
[40 C.F.R. § 60.4205(a)]

Pollutant	g/HP-hr
HC	1.0
NO _x	6.9
CO	8.5
PM	0.40

Lepage shall maintain documentation of the EPA Tier 2 Emission Compliance Statement that shows that the engine meets the above stated requirements and make the documentation available to the Department upon request.

2. Ultra-Low Sulfur Fuel

The fuel fired in the generator engine shall not exceed 15 ppm sulfur (0.0015% sulfur). Compliance with the fuel sulfur content limit shall be demonstrated by fuel delivery receipts from the supplier, fuel supplier certification, certificate of analysis, or testing of the fuel in the tank on-site. [40 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 115, BPT]

3. Non-Resetable Hour Meter

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4209(a)]

4. Annual Time Limit for Maintenance and Testing

a. As an emergency engine, the unit shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written log) of all engine operating hours. [40 C.F.R. § 60.4211(f) and 06-096 C.M.R. ch. 115, BPT]

b. Lepage shall keep records that include the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

5. Operation and Maintenance

The engine shall be operated and maintained according to the manufacturer's emission-related written instructions. Lepage may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)]

Lepage shall have available for review by the Department a copy of the manufacturer's emission-related written instructions for engine operation and maintenance. [06-096 C.M.R. ch. 115, BPT]

(21) **Parts Washer**

The Parts Washer at Lepage is subject to *Solvent Cleaners*, 06-096 C.M.R. ch. 130.

- A. Lepage shall keep records of the amount of solvent added to the Parts Washer.
[06-096 C.M.R. ch. 115, BPT]
- B. The following are exempt from the requirements of 06-096 C.M.R. ch. 130 [06-096 C.M.R. ch. 130]:
 1. Solvent cleaners using less than two liters (68 oz.) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
 2. Wipe cleaning; and,
 3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.
- C. The following standards apply to cold cleaning machines that are applicable sources under 06-096 C.M.R. ch. 130.
 1. Lepage shall attach a permanent conspicuous label to each unit summarizing the following operational standards:
 - a. Waste solvent shall be collected and stored in closed containers.
 - b. Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
 - c. Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - d. The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - e. Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the parts washer.
 - f. When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
 - g. Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in covered containers.
 - h. Work area fans shall not blow across the opening of the parts washer unit.
 - i. The solvent level shall not exceed the fill line.
 2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches.

3. The Parts Washer shall be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent.
[06-096 C.M.R. ch. 130]

(22) 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, Lepage may be required to submit additional information. Upon written request from the Department, Lepage shall provide information necessary to demonstrate 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 21st DAY OF FEBRUARY, 2024.

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: December 15, 2022

Date of application acceptance: December 22, 2022

Date filed with the Board of Environmental Protection:

This Order prepared by Kendra Nash, Bureau of Air Quality.

