



DEPARTMENT ORDER

**University of New England
 Cumberland County
 Portland, Maine
 A-111-71-N-R/A**

**Departmental
 Findings of Fact and Order
 Air Emission License
 Renewal and 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

The University of New England (UNE) has applied to renew their Air Emission License for the operation of emission sources associated with their educational facility.

The equipment addressed in this license is located at 716 Stevens Ave, Portland, Maine.

UNE has additionally requested an amendment to their license in order to make the following changes:

1. Remove Boilers #4 and #7;
2. Remove the annual natural gas and distillate fuel limits; and
3. Add a new emergency generator, designated Generator #5.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Boiler #1	10.5	10,194 scf/hr	Natural gas	1990	1990	1
Boiler #2	2.9	2,816 scf/hr	Natural gas	2001	2001	2
		20.9 gal/hr	Distillate fuel			
Boiler #3	8.4	8,155 scf/hr	Natural gas	2001	2001	
		59.8 gal/hr	Distillate fuel			
Boiler #5	2.2	2,163 scf/hr	Natural gas	2009	2009	4
Boiler #6	2.2	2,163 scf/hr	Natural gas	2009	2009	

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Boiler #4*	1.0	980 scf/hr	Natural gas	1990	1990	3
Boiler #7*	3.6	25.7 gal/hr	Distillate fuel	1982	1982	N/A

*This equipment has been removed from the facility.

UNE also has several small boilers, and water heaters not listed in the table above. These are considered insignificant emissions units because they are each rated below 1.0 MMBtu/hr, the heat input capacity level at or above which would require their inclusion in the license; therefore, these small boilers, and water heaters are not addressed further in this license.

Stationary Emergency Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Fuel Type	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Generator #1	2.5	230	Distillate fuel	18.2 gal/hr	2009	2009
Generator #2	1.5	158	Distillate fuel	11.2 gal/hr	2006	2013
Generator #3	2.7	250	Distillate fuel	19.6 gal/hr	2013	2013
Generator #4	2.1	150	Natural gas	2,061 scf/hr	2013	2013
Generator #5	4.4	500	Distillate fuel	31.1 gal/hr	2024	2024

UNE 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, UNE may operate portable engines used for maintenance or emergency-only purposes, which are below the applicability threshold of 1.0 MMBtu/hr as described in 06-096 C.M.R. ch. 115. 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.

UNE has applied to renew currently licensed emission units as well as modify 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 Emission Levels
PM	2.4	7.5	5.1	100
PM ₁₀	2.4	7.5	5.1	100
PM _{2.5}	2.4	7.5	5.1	100
SO ₂	8.8	0.4	-8.4	100
NO _x	6.1	15.8	9.7	100
CO	2.7	10.2	7.5	100
VOC	0.4	1.0	0.6	50*

* UNE is located in an area of the state included in the Ozone Transport Region. Therefore, the significant emission level for VOC is 50 tpy.

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 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 UNE is subject to license restrictions that keep facility emissions below major source thresholds for NO_x; 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. Boilers

UNE operates Boilers #1, #2, #3, #5, and #6 for heat. Boilers #1, #5, and #6 are rated at 10.5, 2.2, and 2.2 MMBtu/hr, respectively, firing natural gas. Boilers #2 and #3 are rated at 2.9 and 8.4 MMBtu/hr, respectively, firing either distillate fuel or natural gas. Boiler #1 was installed in 1990 and exhausts through its own stack designated Stack #1. Boilers #2 and #3 were installed in 2001 and exhaust through a common stack designated

Stack #2. Boilers #5 and #6 were installed in 2009 and exhaust through a common stack designated Stack #4.

Boilers #2 and #3 are licensed to fire distillate fuel. With limited exceptions, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm) pursuant to 38 M.R.S. § 603-A(2)(A)(3). Therefore, the distillate fuel purchased or otherwise obtained for use in Boilers #2 and #3 shall not exceed 0.0015% by weight (15 ppm).

1. BPT Findings

The BPT emission limits for Boilers #1, #2, #3, #5, and #6 were based on the following:

Distillate Fuel

- PM/PM₁₀/PM_{2.5} – 0.08 lb/MMBtu based on 06-096 C.M.R. ch. 115, BPT
- SO₂ – based on firing distillate fuel with a maximum sulfur content of 0.0015% by weight
- NO_x – 20 lb/1,000 gal based on AP-42 Table 1.3-1 dated 5/10
- CO – 5 lb/1,000 gal based on AP-42 Table 1.3-1 dated 5/10
- VOC – 0.35 lb/1,000 gal based on AP-42 Table 1.3-3 dated 5/10
- Visible Emissions – 06-096 C.M.R. ch. 115, BPT

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 Emissions – 06-096 C.M.R. ch. 115, BPT

The BPT emission limits for Boilers #1, #2, #3, #5, and #6 are the following:

Unit	Fuel	Pollutant	lb/MMBtu
Boiler #1	Natural Gas	PM	0.05
Boiler #3	Distillate Fuel	PM	0.08
	Natural Gas		0.05

Unit	Fuel	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	Natural Gas	0.53	0.53	0.53	0.01	1.02	0.86	0.06
Boiler #2	Distillate Fuel	0.24	0.24	0.24	0.01	0.42	0.11	0.01
	Natural Gas	0.15	0.15	0.15	0.01	0.29	0.24	0.02
Boiler #3	Distillate Fuel	0.68	0.68	0.68	0.02	1.20	0.30	0.03
	Natural Gas	0.42	0.42	0.42	0.01	0.82	0.69	0.05
Boiler #5	Natural Gas	0.11	0.11	0.11	0.01	0.22	0.19	0.02
Boiler #6	Natural Gas	0.11	0.11	0.11	0.01	0.22	0.19	0.02

2. Visible Emissions

Visible emissions from any stack where an associated boiler is firing distillate fuel shall not exceed 20% opacity on a six-minute block average basis.

Visible emissions from any stack where all associated boilers are firing natural gas 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

Boiler #1 is 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. Due to their size, Boilers #2, #3, #5, and #6 are not subject 40 C.F.R. Part 60, Subpart Dc. [40 C.F.R. § 60.40c]

UNE shall comply with all requirements of 40 C.F.R. Part 60, Subpart Dc applicable to Boiler #1 including, but not limited to, the following:

- a. UNE shall maintain records of the amounts of each fuel combusted in Boiler #1 on a monthly basis. [40 C.F.R. § 60.48c(g)]
- b. UNE shall maintain records required by Subpart Dc for a period of two years following the date of the record. [40 C.F.R. § 60.48c(i)]
 Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the two-year record retention requirement of Subpart Dc shall be streamlined to the more stringent six-year requirement.

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

Gas-fired boilers such as Boilers #1, #5, and #6 are exempt from *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJ. However, boilers which fire fuel oil are not. A “gas-fired boiler” is defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas

curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 C.F.R. § 63.11237]

In order to maintain the classification of gas-fired boilers, UNE may only fire distillate fuel in Boilers #2 and #3 during periods of gas curtailment or supply interruption (as defined in 40 C.F.R. § 63.11237 “Period of gas curtailment or supply interruption”), startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

C. Generators

UNE operates five emergency generators, Generators #1, #2, #3, #4, and #5. The emergency generators are generator sets with each gen set consisting of an engine and an electrical generator. Generators #1, #3, #4, and the new Generator #5, are stationary emergency generators with engines rated at 2.5, 2.7, 2.1, and 4.4 MMBtu/hr, respectively. Generators #1, #3, and #5 fire distillate fuel, while Generator #4 fires natural gas. Generators #1, #3, #4, and #5 were manufactured in 2009, 2013, 2013, and 2024, respectively. Generator #2 is a portable, distillate fuel-fired generator which is able to be moved throughout the facility. Generator #2 has an engine rated at 1.5 MMBtu/hr and was manufactured in 2006.

1. BACT and BPT Findings

The BPT emission limits for Generators #1, #2, #3, and #4, and BACT emission limits for Generator #5 are based on the following:

Generators #1, #2, #3, and #5

PM/PM ₁₀ /PM _{2.5}	– 0.12 b/MMBtu from 06-096 C.M.R. ch. 103 for Generator #5, and 06-096 C.M.R. ch. 115, BPT for Generators #1, #2, and #3
SO ₂	– Combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	– 4.41 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
CO	– 0.95 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
VOC	– 0.36 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
Visible Emissions	– 06-096 C.M.R. ch. 101 for Generators #1, #2, and #3, and 06-096 C.M.R. ch. 115, BACT for Generator #5

Generator #4

- PM/PM₁₀/PM_{2.5} – 0.05 b/MMBtu from 06-096 C.M.R. ch. 115, BPT
 - SO₂ – 0.000588 lb/MMBtu from AP-42 Table 3.2-2 dated 7/00
 - NO_x – 0.847 lb/MMBtu from AP-42 Table 3.2-2 dated 7/00
 - CO – 0.557 lb/MMBtu from AP-42 Table 3.2-2 dated 7/00
 - VOC – 0.118 lb/MMBtu from AP-42 Table 3.2-2 dated 7/00
 - Visible – 06-096 C.M.R. ch. 115, BPT
- Emissions

The BACT and BPT emission limits for the generators are the following:

Unit	Pollutant	lb/MMBtu
Generator #5	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	0.30	0.30	0.30	0.01	11.03	2.38	0.90
Generator #2	0.18	0.18	0.18	0.01	6.62	1.43	0.54
Generator #3	0.33	0.33	0.33	0.01	11.91	2.57	0.98
Generator #4	0.11	0.11	0.11	0.01	1.78	1.17	0.25
Generator #5	0.53	0.53	0.53	0.01	14.08	3.74	0.40

Visible emissions from Generators #1, #2, #3, and #5 shall each not exceed 20% opacity on a six-minute block average basis.

Visible emissions from Generator #4 shall not exceed 10% opacity on a six-minute block average basis.

The Department has determined that the BPT visible emissions limit is more stringent than the applicable limit in 06-096 C.M.R. ch. 101. Therefore, the visible emissions limit for Generator #4 has been streamlined to the more stringent BPT limit, and only this more stringent limit shall be included in the air emission license.

BPT/BACT for the emergency generators includes recordkeeping of all maintenance conducted on each engine.

2. Chapter 169

Generators #1, #3, and #4 were installed prior to the effective date of *Stationary Generators*, 06-096 C.M.R. ch. 169 (Chapter 169) and are therefore exempt from this rule pursuant to section 1.

Generator #2 is a portable unit and is therefore exempt from this rule pursuant to section 1.

Chapter 169 is applicable to Generator #5. It is an emergency generator powered by an engine with a rated output of less than 1,000 brake horsepower (747 kW). Chapter 169 identifies emission standards for generator engines subject to this chapter and stack height requirements for certain generator engines subject to this chapter.

a. Chapter 169 Emission Standards Requirements

For Generator #5, UNE shall comply with the emission standards for emergency generators by complying with the applicable standards contained in 40 C.F.R. Part 60, Subpart IIII, addressed in a following section.
[06-096 C.M.R. ch. 169, § 4(B)(1)]

b. Chapter 169 Stack Height Requirements

Chapter 169 identifies stack height requirements for any stack used to exhaust a generator engine or combination of generator engines with a combined rated output equal to or greater than 1,000 brake horsepower (747 kW). Individual generator engines with a maximum power capacity of less than 300 kW are not included in the assessment of the combined generator power capacity exhausted through a common stack. [06-096 C.M.R. ch. 169, § 6]

There are no stack height requirements in Chapter 169 applicable to Generator #5 because it exhausts through its own stack and its rated output of 500 kW is less than 1,000 brake horsepower (747 kilowatts). [06-096 C.M.R. ch. 169, § 6]

3. 40 C.F.R. Part 60, Subpart IIII

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart IIII is applicable to Generators #1, #3, and #5 since the units were 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 IIII, the units also meet 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)]

Generator #2 is not subject to Subpart IIII because it is not a stationary engine. Generator #4 is not subject to Subpart IIII because it is a spark ignition engine as opposed to a compression ignition engine. [40 C.F.R. § 60.4219]

A summary of the currently applicable federal 40 C.F.R. Part 60, Subpart IIII 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 engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 C.F.R. § 60.4202. [40 C.F.R. § 60.4205(b)]

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in the engines 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 each engine. [40 C.F.R. § 60.4209(a)]

(4) Operation and Maintenance Requirements

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

UNE 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 emergency engines, the units shall each 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 III for emergency engines. [40 C.F.R. § 60.4214(b)]

(7) Recordkeeping

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

4. 40 C.F.R. Part 60 Subpart JJJJ

Standards of Performance for Spark Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart JJJJ is applicable to Generator #4 since the unit was ordered after June 12, 2006, and manufactured after January 1, 2009. [40 C.F.R. § 60.4230] By meeting the requirements of 40 C.F.R. Part 60, Subpart JJJJ, 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 JJJJ requirements is listed below.

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart JJJJ, 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 JJJJ, 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. §§ 60.4243(d) and 60.4248]

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

(1) Manufacturer Certification Requirement

The engine shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1. [40 C.F.R. § 60.4233]

(2) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on the engine.
[40 C.F.R. § 60.4237]

(3) Operation and Maintenance Requirement

The engine shall be operated and maintained according to the manufacturer's written instructions or procedures developed by UNE that are approved by the

engine manufacturer. UNE may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

UNE shall have available for review by the Department a copy of the manufacturer's written instructions or procedures developed by UNE that are approved by the engine manufacturer for engine operation and maintenance. [06-096 C.M.R. ch. 115, BPT]

(4) Annual Time Limit for Maintenance and Testing

As an emergency engine, the unit shall be limited to 100 hours/year for maintenance and testing. The emergency engine may operate up to 50 hours per year in non-emergency situations, but those 50 hours are included in the 100 hours total allowed for maintenance and testing. The 50 hours for non-emergency use cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 C.F.R. § 60.4243(d)]

(5) Recordkeeping

UNE shall keep records that include maintenance conducted on the engine and 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. § 60.4245(b)]

D. General Process Emissions

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

E. Fugitive Emissions

UNE 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.

UNE 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.

F. 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 boilers for 8,760 hr/yr each, using the worst-case emission factors for their licensed fuels; and
- Operating the emergency generators for 100 hrs/yr each.

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	PM₁₀	PM_{2.5}	SO₂	NO_x	CO	VOC
Boilers	7.4	7.4	7.4	0.3	13.5	9.6	0.8
Emergency Generators	0.1	0.1	0.1	0.1	2.3	0.6	0.2
Total TPY	7.5	7.5	7.5	0.4	15.8	10.2	1.0

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 the expected construction and operation of the proposed and 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 UNE 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-111-71-N-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) **Boilers**

A. Fuel

1. Boilers #1, #5, and #6 are licensed to fire natural gas. [06-096 C.M.R. ch. 115, BPT]
2. Boilers #2 and #3 are licensed to fire both distillate fuel and natural gas. [06-096 C.M.R. ch. 115, BPT]
3. UNE may only fire distillate fuel in Boilers #2 and #3 during periods of gas curtailment or supply interruption (as defined in 40 C.F.R. § 63.11237 "Period of gas curtailment or supply interruption"), startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [06-096 C.M.R. ch. 115, BPT]
4. UNE shall keep records of amounts of fuel combusted in Boiler #1 on a monthly basis. [40 C.F.R. § 60.48c(g)]
5. The facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BPT]
6. Fuel sulfur content compliance shall be demonstrated by fuel delivery receipts from the supplier, a statement from the supplier that the fuel delivered meets Maine's fuel sulfur content standards, certificate of analysis, or testing of fuel in the tank on-site. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Fuel	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	Natural Gas	PM	0.05	06-096 C.M.R. ch. 115, BPT
Boiler #3	Natural Gas	PM	0.05	06-096 C.M.R. ch. 115, BPT
	Distillate Fuel		0.08	

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

Emission Unit	Fuel	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	Natural Gas	0.53	0.53	0.53	0.01	1.02	0.86	0.06
Boiler #2	Distillate Fuel	0.24	0.24	0.24	0.01	0.42	0.11	0.01
	Natural Gas	0.15	0.15	0.15	0.01	0.29	0.24	0.02
Boiler #3	Distillate Fuel	0.68	0.68	0.68	0.02	1.20	0.30	0.03
	Natural Gas	0.42	0.42	0.42	0.01	0.82	0.69	0.05
Boiler #5	Natural Gas	0.11	0.11	0.11	0.01	0.22	0.19	0.02
Boiler #6	Natural Gas	0.11	0.11	0.11	0.01	0.22	0.19	0.02

D. Visible emissions from any stack where an associated boiler is firing distillate fuel shall not exceed 20% opacity on a six-minute block average basis.
 [06-096 C.M.R. ch. 115, BPT]

E. Visible emissions from any stack where all associated boilers are firing natural gas shall not exceed 10% opacity on a six-minute block average basis.
 [06-096 C.M.R. ch. 115, BPT]

(18) **Emergency Generators**

A. Generator #2 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 C.M.R. ch. 115, BPT]
 Note: Operating hour restrictions for all other engines are addressed in the sections below.

B. UNE shall maintain records which demonstrate that Generator #2 is relocated and operated on a basis which maintains the classification of a non-road (portable) engine.
 [06-096 C.M.R. ch. 115, BPT]

C. UNE shall keep records of all maintenance conducted on the engines associated with Generators #1, #2, #3, and #5. [06-096 C.M.R. ch. 115, BPT and BACT]

D. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #5	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)

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

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	0.30	0.30	0.30	0.01	11.03	2.38	0.90
Generator #2	0.18	0.18	0.18	0.01	6.62	1.43	0.54
Generator #3	0.33	0.33	0.33	0.01	11.91	2.57	0.98
Generator #4	0.11	0.11	0.11	0.01	1.78	1.17	0.25
Generator #5	0.53	0.53	0.53	0.01	14.08	3.74	0.40

F. Visible Emissions

Visible emissions from Generators #1, #2, #3, and #5 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(A)(4) and 06-096 C.M.R. ch. 115, BACT]

Visible emissions from Generator #4 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

G. Generators #1, #3, and #5 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 and BACT]

1. Manufacturer Certification

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in § 60.4202. [40 C.F.R. § 60.4205(b)]

2. Ultra-Low Sulfur Fuel

The fuel fired in the engines 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 each engine. [40 C.F.R. § 60.4209(a)]

4. Annual Time Limit for Maintenance and Testing

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

5. Operation and Maintenance

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

UNE 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]

- H. Generator #4 shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart JJJJ, including the following:
[incorporated under 06-096 C.M.R. ch. 115, BPT]

1. Manufacturer Certification

The engine shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1.

2. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4237 and 06-096 C.M.R. ch. 115, BPT]

3. 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). The 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. § 60.4243(d) and 06-096 C.M.R. ch. 115, BPT]

- b. UNE shall keep records that include maintenance conducted on the engine and 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. § 60.4245(b)]

4. Operation and Maintenance

The engine shall be operated and maintained according to the manufacturer's written instructions or procedures developed by UNE that are approved by the engine manufacturer. UNE may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

UNE 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]

(19) **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)]

(20) **Fugitive Emissions**

- A. UNE 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. UNE 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.

[06-096 C.M.R. ch. 101, § 4(C)]

- (21) 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, UNE may be required to submit additional information. Upon written request from the Department, UNE 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 9th DAY OF AUGUST, 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: 6/25/24

Date of application acceptance: 6/26/24

Date filed with the Board of Environmental Protection:

This Order prepared by Chris Ham, Bureau of Air Quality.

