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

DEPARTMENT ORDER

Foreside Utility Company LLC **Cumberland County** **Portland, Maine** **A-1191-71-A-N**	**Departmental** **Findings of Fact and Order** **Air Emission License**

FINDINGS OF FACT

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

I. REGISTRATION

A. Introduction

Foreside Utility Company LLC (Foreside) has applied for an Air Emission License for the operation of emission sources associated with their cogeneration facility. The cogeneration facility will be used for generation of thermal energy and electricity for use solely at the onsite facilities.

The equipment addressed in this license is located at 150 Thames Street, Portland, Maine. The contact address for the facility is 110 Thames Street, Portland, Maine.

B. Title, Right, or Interest

In their application, Foreside submitted copies of a property deed demonstrating ownership of the facility. Foreside has provided sufficient evidence of title, right, or interest in the facility for purposes of this air emission license.

C. 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. (anticipated)	Date of Install. (anticipated)	Stack #
Boiler #1	6.0	5,862 scf/hr	Natural gas	2025	2027	1
Boiler #2	6.0	5,862 scf/hr	Natural gas	2025	2027	2
Boiler #3	6.0	5,862 scf/hr	Natural gas	2025	2027	3
Boiler #4	6.0	5,862 scf/hr	Natural gas	2025	2027	4

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf. (anticipated)	Date of Install. (anticipated)	Stack #
Boiler #5	6.0	5,862 scf/hr	Natural gas	2025	2027	5
Boiler #6	6.0	5,862 scf/hr	Natural gas	2025	2027	6
Boiler #7	6.0	5,862 scf/hr	Natural gas	2025	2027	7
Boiler #8	6.0	5,862 scf/hr	Natural gas	2025	2027	8

Stationary Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (MW)	Fuel Type	Firing Rate (scf/hr)	Date of Manuf. (annticipated)	Date of Install. (anticipated)
Cogen #1	22.15	2.5	Natural gas	21,720	2025	2027
Cogen #2	22.15	2.5	Natural gas	21,720	2025	2027
Cogen #3	22.15	2.5	Natural gas	21,720	2025	2027
Cogen #4	22.15	2.5	Natural gas	21,720	2025	2027

Foreside 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, Foreside 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.

D. Definitions

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

E. 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.

A new source is considered a major source based on whether or not total licensed annual emissions exceed the "Significant Emissions" levels as defined in the Department's *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100.

Pollutant	Total Licensed Annual Emissions (tpy)	Significant Emissions Levels
PM	14.4	100
PM_{10}	14.4	100
$PM_{2.5}$	14.4	100
SO_2	0.4	100
NO_x	24.0	100
CO	39.8	100
VOC	4.4	50*

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

The Department has determined the facility is a minor source, and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115.

F. Facility Classification

The facility is licensed as follows:

- As a natural minor source of criteria pollutants, because no license restrictions are necessary to keep facility emissions below major source thresholds for criteria pollutants; 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.

B. Process Description

Foreside is proposing the construction of a central utility plant which will provide space heating and electricity to a 10-acre mixed commercial and residential development. The

plant will be comprised of four natural gas-fired 2.5 MW combined-heat-and-power generators (Cogens #1-#4) and eight natural gas-fired 6 MMBtu/hr boilers (Boilers #1-#8).

C. Boilers #1-#8

Foreside has proposed to install and operate Boilers #1-#8 for heat. The boilers will each be rated at 6.0 MMBtu/hr and fire natural gas. Foreside plans to install the boilers in 2027. Each boiler will exhaust through its own stack.

1. BACT Findings

Foreside submitted a BACT analysis for control of emissions from Boilers #1-#8.

a. Particulate Matter (PM, PM_{10}, $PM_{2.5}$)
Foreside has proposed to burn only natural gas in the boilers and to optimize combustion conditions using oxygen trim systems. An oxygen (O_2) trim system monitors the O_2 content in the exhaust gas and automatically adjusts the fuel valve or air damper to optimize the air-to-fuel ratio. Additional add-on pollution controls are not economically feasible.

BACT for PM/PM_{10}/$PM_{2.5}$ emissions from Boilers #1-#8 is the use of an oxygen trim system and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO_2)
Foreside has proposed to fire only natural gas in the boilers, resulting in minimal emissions of SO_2. Additional add-on pollution controls are not economically feasible.

BACT for SO_2 emissions from Boiler #1-#8 is the use of natural gas and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)
Foreside considered several control strategies for the control of NO_x including Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), water/steam injection, flue gas recirculation (FGR), low-NO_x burners, and use of oxygen trim systems.

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. Each technology is effective within a specific temperature range, 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-#8.

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 control strategies reduce the boiler's fuel efficiency.

Low NO_x burners are designed to minimize the formation of NO_x by reducing the flame temperatures and burning fuel more efficiently. Foreside has proposed the use of low NO_x burners in Boilers #1-#8.

The use of low-NO_x burners and oxygen trim systems on Boilers #1-#8 have been determined to be feasible and have been selected as part of the BACT strategy.

BACT for NO_x emissions from Boilers #1-#8 is the use of low-NO_x burners, an oxygen trim system, and the emission limits listed in the tables below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)
Foreside considered several control strategies for the control of CO and VOC including oxidation catalysts, thermal oxidizers, and use of an oxygen trim system.

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.

The use of an oxygen trim system has been determined to be feasible and has been selected as part of the BACT strategy for Boilers #1-#8.

BACT for CO and VOC emissions from Boilers #1-#8 is the use of an oxygen trim system and the emission limits listed in the tables below.

e. Emission Limits
The BACT emission limits for Boilers #1-#8 were based on the following:

Natural Gas

PM	–	0.05 lb/MMBtu, 06-096 C.M.R. ch. 115, BACT
$PM_{10}/PM_{2.5}$	–	7.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
SO_2	–	0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
NO_x	–	50 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-#8 are the following:

Unit	Pollutant	lb/MMBtu
Boiler #1-#8 (each)	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)
Boilers #1-#8 (each)	0.30	0.04	0.04	--	0.29	0.49	0.03

2. Visible Emissions

   Visible emissions from each boiler shall not exceed 10% opacity on a six-minute block average basis.

3. Periodic Monitoring

   Periodic monitoring for Boilers #1-#8 shall include recordkeeping to document fuel use both on a monthly and calendar year total basis.

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

   Due to the size, the boilers are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

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

   Boilers #1-#8 are not subject to *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJJ, because they are gas-fired boilers as defined in the subpart. [40 C.F.R. § 63.11195(e)]

D. <u>Cogen #1 - #4</u>

Foreside has proposed to install and operate four combined-heat-and-power generators, designated Cogen #1-#4. The generators will each have an engine rated at 22.15 MMBtu/hr that fires natural gas. The generators are expected to be manufactured in 2025.

1. BACT Findings

   Foreside submitted a BACT analysis for control of emissions from Cogens #1-#4.

a. Particulate Matter (PM, PM_{10}, $PM_{2.5}$)
Foreside has proposed lean burn engines that fire only natural gas and are designed with advanced combustion controls that will manage the air-to-fuel ratio and ignition systems to minimize emissions. Additional add-on pollution controls are not economically feasible.

BACT for $PM/PM_{10}/PM_{2.5}$ emissions from Cogens #1-#4 is the use of natural gas, advanced combustion controls designed to minimize emissions, and the emission limits listed below.

b. Sulfur Dioxide (SO_2)
Foreside has proposed to fire only natural gas in the engines, resulting in minimal emissions of SO_2. Additional add-on pollution controls are not economically feasible.

BACT for SO_2 emissions from Cogens #1-#4 is the use of natural gas and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)
Foreside considered several control strategies for the control of NO_x including Selective Catalytic Reduction (SCR), Non-Selective Catalytic Reduction (NSCR), and lean-burn engine optimization.

SCR involves the injection of a urea-based solution into the exhaust stream of the engines. The urea decomposes into ammonia (NH_3) and carbon dioxide (CO_2) in the high temperature exhaust before passing through a catalyst. Inside the catalyst, NO_x reacts the NH_3 to form nitrogen (N_2) and water vapor. SCR has a control efficiency of greater than 90%. SCR is considered technically and economically feasible as a control strategy for Cogens #1-#4.

NSCR utilizes a three-way catalyst in a rich burn environment (excess fuel relative to oxygen) to convert NO_x to N_2, CO to CO_2, and hydrocarbons to CO_2 and water. The engines proposed by Foreside will operate in a lean burn configuration, and therefore NSCR is not technically feasible.

Lean burn engines operate with an air-to-fuel ratio greater than the stoichiometric ratio. The excess air in the combustion chamber lowers the combustion temperature, reducing formation of thermal NO_x. The engines proposed by Foreside are designed to operate in a lean burn configuration.

BACT for NO_x emissions from Cogens #1-#4 is the use of SCR, lean burn engine optimization, and the emission limits listed in the tables below.

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

Foreside has proposed an oxidation catalyst as a potential control strategy for CO and VOC. An oxidation catalyst consists of a ceramic or metallic substrate coated with precious metals. The catalyst is situated in the exhaust stream of the engine and promotes oxidation reactions converting CO to CO_2 and VOC to CO_2 and water. Oxidation catalysts operate best with excess oxygen, making them suitable for lean burn engines. Oxidation catalysts typically have a control efficiency of greater than 70%.

BACT for CO and VOC emissions from Cogens #1-#4 is the use of an oxidation catalyst and the emission limits listed in the tables below.

e. Emission Limits

The BACT emission limits for Cogens #1-#4 are based on the following:

$PM/PM_{10}/PM_{2.5}$	–	0.01 lb/MMBtu from AP-42 Table 3.2-2 dated 10/24
SO_2	–	5.88 E-04 lb/MMBtu from AP-42 Table 3.2-2 dated 10/24
NO_x	–	1 g/bhp-hr and 90% control efficiency based on manufacturer's specifications
CO	–	1.1 g/bhp-hr and 85% control efficiency based on manufacturer's specifications
VOC	–	0.08 g/bhp-hr and 70% control efficiency based on manufacturer's specifications
Visible Emissions	–	06-096 C.M.R. ch. 115, BACT

The BACT emission limits for the Cogens #1-#4 are the following:

Unit	Pollutant	lb/MMBtu
Cogens #1-#4 (each)	PM	0.01

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)
Cogens #1-#4 (each)	0.22	0.22	0.22	0.01	0.78	1.29	0.19

Visible emissions from each of the engines shall not exceed 10% opacity on a six-minute block average basis.

The Department has determined that the BACT visible emission limit is more stringent than the applicable limit in 06-096 C.M.R. ch. 101. Therefore, the visible emission limit for each of the Cogens #1-#4 has been streamlined to the more stringent BACT limit, and only this more stringent limit shall be included in the air emission license.

f. Controls

Foreside shall operate the SCR and oxidation catalysts at all times that the engines are in operation according to the manufacturer's specifications to minimize emissions. [06-096 C.M.R. ch. 115, BACT]

2. Chapter 169

Stationary Generators, 06-096 C.M.R. ch. 169 (Chapter 169), is applicable to Cogens #1-#4. They are generators powered by engines with a rated output of greater 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

As non-emergency generators (unrestricted in terms of hours of operation during both non-emergency and emergency periods), Cogens #1-#4 shall be powered by engines that meet, at a minimum, the emission standards contained in 40 C.F.R. Part 60, Subpart JJJJ as amended on June 29, 2021. Foreside has proposed BACT emission limits at least as stringent as the Subpart JJJJ standards.

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]

Cogens #1-#4 shall each exhaust through a stack with a minimum height of 114.2 feet above ground level which is equivalent to at least 60% good engineering practice (GEP). [06-096 C.M.R. ch. 169, § 6(A)]

3. New Source Performance Standards

Standards of Performance for Spark Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart JJJJ is applicable to the engines listed above since the units were ordered after June 12, 2006, and manufactured after July 1, 2007. [40 C.F.R. § 60.4230] By meeting the requirements of 40 C.F.R. Part 60, Subpart JJJJ, 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)]

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

a. Emission Standards

Cogens #1-#4 are subject to the emission standards in Table 1 of Subpart JJJJ. The BACT emission limits for the engines are at least as stringent as the Subpart JJJJ standards. Compliance with the BACT limits will be considered compliance with the Subpart JJJJ standards. [40 C.F.R. § 60.4233(e)]

b. Compliance Requirements

(1) Certified Engines

If Cogens #1-#4 are certified by the manufacturer according to procedures specified in Subpart JJJJ for the same model year, Foreside may demonstrate compliance according to one of the following methods [40 C.F.R. § 60.4243(b)(1)]:

(i) If Cogens #1-#4 and associated control devices are operated according to the manufacturer's emission-related written instructions, Foreside shall keep records of conducted maintenance and meet all applicable requirements of 40 C.F.R. Part 1068, Subparts A through D. [40 C.F.R. § 60.4243(a)(1)]

(ii) If Cogens #1-#4 and associated control devices are **not** operated according to the manufacturer's emission-related written instructions, Foreside shall keep a maintenance plan and records of conducted maintenance. To the extent practicable, Foreside shall maintain and operate the engines in a manner consistent with good air pollution control practices for minimizing emissions. Foreside shall conduct initial performance tests within one year of engine startup and conduct subsequent performance testing every 8,760 hours, or three years, whichever comes first. Performance testing shall be conducted according to the applicable procedures specified in 40 C.F.R. § 60.4244. [40 C.F.R. §§ 60.4243(a)(2)(iii) and 60.4244]

(2) Non-Certified Engines

If Cogens #1-#4 are **not** certified by the manufacturer according to procedures specified in Subpart JJJJ for the same model year, Foreside shall demonstrate compliance by keeping a maintenance plan and records of conducted maintenance. To the extent practicable, Foreside shall maintain and operate the engines in a manner consistent with good air pollution control practices for minimizing emissions. Foreside shall conduct initial performance tests and conduct subsequent performance testing every 8,760 hours, or three years,

whichever comes first. Performance testing shall be conducted according to the applicable procedures specified in 40 C.F.R. § 60.4244.
[40 C.F.R. §§ 60.4243(b)(ii) and 60.4244]

c. Foreside shall keep records of the hours of operation of each engine recorded through a non-resettable hour meter. [40 C.F.R. § 60.4245(b)]

d. Initial Notification

If Cogens #1-#4 have **not** been certified by the manufacturer to meet the emission standards of Subpart JJJJ, Foreside shall submit an initial notification that must include the following information:

(1) Name and address of the owner or operator;

(2) The address of the affected source;

(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(4) Emission control equipment; and

(5) Fuel used.

Foreside shall submit the notification to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov).

[40 C.F.R. §§ 60.4245(c)]

e. Foreside shall submit the results of any performance testes required for Cogens #1-#4 within 60 days of the date of completing each performance test.
[40 C.F.R. §§ 60.4245(d) and (f)] Note: Standard Condition (11) of this license requires a written report be submitted to the Department within 30 days from the date of test completion; therefore, the 60 day requirement of Subpart JJJJ shall be streamlined to the more stringent 30 day requirement.

f. Foreside shall submit any notifications and performance test results to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov).
[40 C.F.R. § 60.4245(g)]

4. Foreside shall notify the Department upon startup of Cogens #1-#4. The notification shall include a description of the engines and documentation of whether or not the

engines are certified by the manufacturer according to the procedures specified in Subpart JJJJ. [06-096 C.M.R. ch. 115, BACT]

E. Fugitive Emissions

Foreside 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.

Foreside 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. Performance Test Protocol

For any performance testing required by this license, Foreside 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]

The Department's Performance Testing Guidance is available online at:
https://www.maine.gov/dep/air/emissions/testing.html

G. 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 engines for 8,760 hr/yr each;
- Operating the boilers for 8,760 hr/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	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC
Boilers #1-#8	10.51	1.57	1.57	0.12	10.31	17.31	1.13
Cogens #1-#4	3.88	3.88	3.88	0.23	13.65	22.53	3.28
Total TPY	**14.4**	**5.5**	**5.5**	**0.4**	**24.0**	**39.8**	**4.4**

Pollutant	Tons/year
Single HAP	7.9
Total HAP	19.9

III. AMBIENT AIR QUALITY ANALYSIS

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

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

The total 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 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 Foreside 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-1191-71-A-N subject to the following conditions.

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

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).

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

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]

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

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

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
[06-096 C.M.R. ch. 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
[06-096 C.M.R. ch. 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:

A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
   1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
   2. Pursuant to any other requirement of this license to perform stack testing.

B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. Submit a written report to the Department within thirty (30) days from date of test completion.

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

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. Within thirty (30) days following receipt of the written test report by the Department, or another alternative timeframe approved by the Department, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and

B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

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

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or license requirement. [06-096 C.M.R. ch. 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 C.M.R. ch. 115]

(16) The licensee shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(17) Boilers #1-#8

A. Fuel

Foreside shall fire only natural gas in Boilers #1-#8. [06-096 C.M.R. ch. 115, BACT]

B. Foreside shall operate and maintain the oxygen trim systems and low NO_x burners according to the manufacturer's specifications to minimize emissions from Boilers #1-#8. [06-096 C.M.R. ch. 115, BACT]

C. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boilers #1-#8 (each)	PM	0.05	06-096 C.M.R. ch. 115, BACT

D. 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)
Boilers #1-#8 (each)	0.30	0.04	0.04	--	0.29	0.49	0.03

E. Visible emissions from Boilers #1-#8 shall each not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(A)(3)]

F. Periodic monitoring for Boilers #1-#8 shall include recordkeeping to document fuel use both on a monthly and calendar year total basis. [06-096 C.M.R. ch. 115, BACT]

(18) Cogens #1-#4

A. Foreside is licensed to fire only natural gas in Cogens #1-#4. [06-096 C.M.R. ch. 115, BACT]

B. Foreside shall keep records of all maintenance conducted on the engines associated with Cogens #1-#4. [06-096 C.M.R. ch. 115, BACT]

C. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Cogens #1-#4 (each)	PM	0.01	[06-096 C.M.R. ch. 115, BACT]

D. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, 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)
Cogens #1-#4 (each)	0.22	0.22	0.22	0.01	0.78	1.29	0.19

E. Cogens #1-#4 shall each exhaust through a stack with a minimum height of 114.2 feet above ground level. [06-096 C.M.R. ch. 169, § 6(A)]

F. Visible emissions from each of the engines shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

G. Foreside shall operate Cogens #1-#4 in a lean burn configuration and make use of the engines advanced combustion controls according to the manufacturer's specifications to minimize emissions. [06-096 C.M.R. ch. 115, BACT]

H. Foreside shall operate SCR and oxidation catalysts at all times that Cogens #1-#4 are in operation according to the manufacturer's specifications to minimize emissions. [06-096 C.M.R. ch. 115, BACT]

I. Cogens #1-#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, BACT and ch. 169]

1. Foreside shall keep records of the hours of operation of each engine recorded through a non-resettable hour meter. [40 C.F.R. § 60.4245(b)]

2. If Cogens #1-#4 are certified by the manufacturer according to the procedures specified in Subpart JJJJ for the same model year, the following conditions apply:

   a. If Cogens #1-#4 and associated control devices are operated according to the manufacturer's emission-related written instructions, Foreside shall keep records of conducted maintenance and meet all applicable requirements of 40 C.F.R. Part 1068, Subparts A through D.
   [40 C.F.R. § 60.4243(a)(1)]

   b. If Cogens #1-#4 and associated control devices are **not** operated according to the manufacturer's emission-related written instructions, Foreside shall keep a maintenance plan and records of conducted maintenance. To the extent practicable, Foreside shall maintain and operate the engines in a manner consistent with good air pollution control practices for minimizing emissions. Foreside shall conduct initial performance tests within one year of engine startup and conduct subsequent performance testing every 8,760 hours, or three

years, whichever comes first. Performance testing shall be conducted according to the applicable procedures specified in 40 C.F.R. § 60.4244.
[40 C.F.R. §§ 60.4243(a)(2)(iii) and 60.4244]

3. If Cogens #1-#4 are **not** certified by the manufacturer according to the procedures specified in Subpart JJJJ for the same model year, the following conditions apply:

   a. Initial Notification

      Foreside shall submit an initial notification that must include the following information:

      (1) Name and address of the owner or operator;

      (2) The address of the affected source;

      (3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
      (4) Emission control equipment; and

      (5) Fuel used.

      Foreside shall submit the notification to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov).

      [40 C.F.R. §§ 60.4245(c)]

      Foreside shall supply a copy of the initial notification to the Department.
      [06-096 C.M.R. ch. 115, BACT]

   b. Foreside shall demonstrate compliance by keeping a maintenance plan and records of conducted maintenance. To the extent practicable, Foreside shall maintain and operate the engines in a manner consistent with good air pollution control practices for minimizing emissions. Foreside shall conduct initial performance tests and conduct subsequent performance testing every 8,760 hours, or three years, whichever comes first. Performance testing shall be conducted according to the applicable procedures specified in 40 C.F.R. § 60.4244. [40 C.F.R. §§ 60.4243(b)(ii) and 60.4244]

4. Foreside shall submit the results of any performance testes required for Cogens #1-#4 within 60 days of the date of completing each performance test.
   [40 C.F.R. §§ 60.4245(d) and (f)] Note: Standard Condition (11) of this license requires a written report be submitted to the Department within 30 days from the

date of test completion; therefore, the 60 day requirement of Subpart JJJJ shall be streamlined to the more stringent 30 day requirement.

5. Foreside shall submit any notifications and performance test results to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov). [40 C.F.R. § 60.4245(g)]

J. Foreside shall notify the Department upon startup of Cogens #1-#4. The notification shall include a description of the engines and documentation of whether or not the engines are certified by the manufacturer according to the procedures specified in Subpart JJJJ. [06-096 C.M.R. ch. 115, BACT]

(19) **Fugitive Emissions**

A. Foreside 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. Foreside 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)]

(20) **Performance Test Protocol**

For any performance testing required by this license, Foreside 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, BACT]

(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, Foreside may be required to submit additional information. Upon written request from the Department, Foreside 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 24th DAY OF JULY, 2025.

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: April 23, 2025
Date of application acceptance: April 28, 2025

This Order prepared by Benjamin Goundie, Bureau of Air Quality.