



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

DEPARTMENT ORDER

**Kingfish Maine Inc.
Washington County
Jonesport, Maine
A-1157-71-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

Kingfish Maine Inc. (Kingfish) has applied for an Air Emission License for the operation of emission sources associated with their aquaculture facility.

The equipment addressed in this license will be located at 9 Dun Garvin Road, Jonesport, Maine.

B. Title, Right, or Interest

In their application, Kingfish submitted copies of an Option to Purchase Real Estate document demonstrating interest in the property proposed for development. Kingfish has provided sufficient evidence of title, right, or interest in the property for purposes of this air emission license.

C. Emission Equipment

The following equipment is addressed in this air emission license:

Stationary Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Fuel Type, % sulfur	Firing Rate (gal/hr)	Date of Manuf.
Generator #1	23.5	2,500	distillate fuel, 0.0015%	171.3	≥ 2021
Generator #2	23.5	2,500	distillate fuel, 0.0015%	171.3	≥ 2021
Generator #3	23.5	2,500	distillate fuel, 0.0015%	171.3	≥ 2021
Generator #4	23.5	2,500	distillate fuel, 0.0015%	171.3	≥ 2021
Generator #5	23.5	2,500	distillate fuel, 0.0015%	171.3	≥ 2021
Generator #6	23.5	2,500	distillate fuel, 0.0015%	171.3	≥ 2021

Kingfish 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, Kingfish 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.

Kingfish also intends to install 10 distillate fuel storage tanks each with a capacity of approximately 15,000 gallons. These tanks are considered insignificant activities pursuant to 06-096 C.M.R. ch. 115, Appendix B, § B(1).

D. 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.

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 Emission” 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 Emission Levels (tpy)
PM	0.2	100
PM ₁₀	0.2	100
SO ₂	< 0.1	100
NO _x	15.3	100
CO	1.8	100
VOC	0.4	50

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

With the limit on non-emergency use for the emergency generators, the facility is licensed as follows:

- As a synthetic minor source of air emissions, because Kingfish is subject to license restrictions that 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. Project Description

Kingfish plans to construct a new land-based aquaculture facility to grow Yellowtail Kingfish using a recirculating aquaculture system approach. The facility will include breeding and hatching operations housed in Building 1, followed by grow-out and harvesting operations in Building 2. The applicant states there will be no significant sources of air emissions except for six emergency generators.

C. Generators #1 - #6

Kingfish proposes to install six new emergency generators used to provide backup electricity in the event of an emergency. The emergency generators are generator sets with each set consisting of an engine and an electrical generator. Each engine will exhaust through its own dedicated stack.

To allow for flexibility when Kingfish purchases the generators, the engines addressed in this air emission license represent the maximum (largest) sized units that may be installed and operated. Kingfish may install smaller units without an amendment to this air emission license but may not install larger units or more than six total generators. The exact size of the units installed will be corrected the next time this air emission license is amended or renewed after installation.

Each generator will be rated for no more than 2,500 kW and be powered by an engine with a maximum heat input capacity of no more than 23.5 MMBtu/hr firing distillate fuel.

1. 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 the emergency engines listed above since the units will be 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)]

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

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart IIII, 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 criteria specified below. 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 IIII, 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 or equipment failure;

- 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

Each 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) Each 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) Each 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 per engine, as described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit per engine 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 each 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. Kingfish may only change those emission-related settings that are permitted by the manufacturer.
[40 C.F.R. § 60.4211(a)]

(5) Annual Time Limit for Maintenance and Testing

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

(6) Initial Notification Requirement

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

(7) Recordkeeping

Kingfish shall keep records that include maintenance conducted on the engines and 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)]

2. BACT Findings

Kingfish submitted a BACT analysis for control of emissions from Generators #1 - #6. Since the generators are classified as emergency use only, all calculations of cost effectiveness are based on each engine operating for 100 hours per year, the maximum discretionary, non-emergency usage allowed by 40 C.F.R. Part 60, Subpart IIII.

a. Particulate Matter (PM, PM₁₀)

Kingfish considered the use of diesel particulate filters (DPF) and diesel oxidation catalysts (DOC) for control of particulate matter from Generators #1 - #6. The cost of control is estimated to be in excess of \$990,000 per ton of particulate matter controlled for DPF and in excess of \$1.2 million per ton of particulate matter for DOC. Further, the installation of add-on controls would void the manufacturer's emissions certification since the engines would no longer be configured according

to the manufacturer's emission-related settings. This would result in additional costs to perform initial and repeat performance tests pursuant to 40 C.F.R. § 60.4211(g)(3). Therefore, DPF and DOC were determined to not be economically feasible for these units.

Pursuant to 40 C.F.R. Part 60, Subpart IIII, the proposed engines must be designed to meet a particulate matter emission standard of 0.2 g/kW-hr. [40 C.F.R. § 60.4202(b)(2)] However, the manufacturer's certification to this standard is based on a weighted average of emission rates across various loads and does not represent the maximum emission rate. Kingfish proposed an emission limit of 0.58 lb/hr for each engine based on manufacturer test data which takes into account potential site variation and emission factors for condensable particulate matter from EPA's Compilation of Air Emission Factors (AP-42), Fifth Edition, Volume 1, Chapter 3, *Stationary Internal Combustion Sources*.

BACT for particulate matter emissions from Generators #1 - #6 is determined to be the emission limits listed in the tables below, compliance with a visible emission standard of 20% on a six-minute block average basis, and compliance with the requirements of 40 C.F.R. Part 60, Subpart IIII.

b. Sulfur Dioxide (SO₂)

Kingfish has proposed to fire only distillate fuel with a sulfur content not to exceed 0.0015% by weight. The use of this fuel results in minimal emissions of SO₂, and additional add-on pollution controls are not economically feasible.

BACT for SO₂ emissions from Generators #1 - #6 is the use of ultra-low-sulfur distillate fuel and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)

Kingfish considered the use of selective catalytic reduction (SCR) for control of NO_x from Generators #1 - #6 as well as purchasing engines designed for non-emergency use and, therefore, certified to meet lower emission standards (Tier 4).

The cost of control to add SCR to the proposed engines is approximately \$23,000 per ton of NO_x controlled. Further, the installation of add-on controls would void the manufacturer's emissions certification since the engines would no longer be configured according to the manufacturer's emission-related settings. This would result in additional costs to perform initial and repeat performance tests pursuant to 40 C.F.R. § 60.4211(g)(3).

The cost of control for purchasing Tier 4 certified engines was calculated based on the cost difference between those units and the proposed Tier 2 certified engines. The cost of control to purchase Tier 4 certified engines is approximately \$28,000

per ton of NO_x controlled. The Department finds that both installation of SCR and purchasing Tier 4 engines are not economically feasible for these units.

Pursuant to 40 C.F.R. Part 60, Subpart IIII, each of the proposed engines must be designed to meet an emission standard of 6.4 g/kW-hr for NO_x and non-methane hydrocarbons (NMHC) combined. [40 C.F.R. § 60.4202(b)(2)] However, the manufacturer's certification to this standard is based on a weighted average of emission rates across various loads and does not represent the maximum emission rate. Kingfish proposed an emission limit of 51.10 lb/hr for each engine based on manufacturer test data which takes into account potential site variation.

BACT for NO_x emissions from Generators #1 - #6 is determined to be the emission limits listed in the tables below and compliance with the requirements of 40 C.F.R. Part 60, Subpart IIII.

Additionally, if the sum of the operating time for all six generators combined exceeds 3,900 hours on a 12-month rolling total basis, the facility's potential to emit (PTE) will exceed 100 tpy for NO_x and Kingfish will be considered a major source for NO_x. Therefore, if this threshold is exceeded, Kingfish shall submit to the Department an application for a Part 70 license pursuant to 06-096 C.M.R. ch. 140 within 12 months of the date the generators exceed this operating threshold.

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

Kingfish considered the use of diesel oxidation catalysts (DOC) for control of CO and VOC from Generators #1 - #6 as well as purchasing engines designed for non-emergency use and, therefore, certified to meet lower emission standards (Tier 4).

The cost of control to add DOC to the proposed engines exceeds \$55,000 per ton of CO controlled and \$280,000 per ton of VOC controlled. Further, the installation of add-on controls would void the manufacturer's emissions certification since the engines would no longer be configured according to the manufacturer's emission-related settings. This would result in additional costs to perform initial and repeat performance tests pursuant to 40 C.F.R. § 60.4211(g)(3).

The cost of control for purchasing Tier 4 certified engines was calculated based on the cost difference between those units and the proposed Tier 2 certified engines. The cost of control to purchase Tier 4 certified engines is approximately \$242,000 per ton of CO controlled and \$1.2 million per ton of VOC controlled. The Department finds that both installation of DOC and purchasing Tier 4 engines are not economically feasible for these units.

Pursuant to 40 C.F.R. Part 60, Subpart IIII, each of the proposed engines must be designed to meet an emission standard of 3.5 g/kW-hr for CO and 6.4 g/kW-hr for NO_x and NMHC combined [40 C.F.R. § 60.4202(b)(2)]. However, the

manufacturer's certification to these standards is based on a weighted average of emission rates across various loads and does not represent the maximum emission rates. Kingfish proposed an emission limit of 6.09 lb/hr for CO and 1.21 lb/hr for VOC for each engine based on manufacturer test data which takes into account potential site variation.

BACT for CO and VOC emissions from Generators #1 - #6 is determined to be the emission limits listed in the tables below and compliance with the requirements of 40 C.F.R. Part 60, Subpart IIII.

e. Emission Limits

The BACT emission limits for Generators #1 - #6 were based on the following:

PM/PM ₁₀	0.05 g/hp-hr based on manufacturer's data
SO ₂	combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	6.38 g/hp-hr @ 100% load based on manufacturer's data
CO	0.76 g/hp-hr @ 100% load based on manufacturer's data
VOC*	0.29 g/hp-hr @ 50% load based on manufacturer's data

*Represents worst-case emissions scenario

The BACT emission limits for Generators #1 - #6 are the following:

Unit	Pollutant	lb/MMBtu
Generator #1	PM	0.09
Generator #2	PM	0.09
Generator #3	PM	0.09
Generator #4	PM	0.09
Generator #5	PM	0.09
Generator #6	PM	0.09

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.58	0.58	0.04	51.10	6.09	1.21
Generator #2	0.58	0.58	0.04	51.10	6.09	1.21
Generator #3	0.58	0.58	0.04	51.10	6.09	1.21
Generator #4	0.58	0.58	0.04	51.10	6.09	1.21
Generator #5	0.58	0.58	0.04	51.10	6.09	1.21
Generator #6	0.58	0.58	0.04	51.10	6.09	1.21

Visible emissions from each of the emergency generators shall not exceed 20% opacity on a six-minute block average basis.

D. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.

E. General Process Emissions

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

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. Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included. Maximum potential emissions were calculated based on operating each generator for 100 hours per year.

Please note, this information provides the basis for fee calculation only and should not be construed to 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	SO ₂	NO _x	CO	VOC
Generator #1	0.03	0.03	–	2.56	0.30	0.06
Generator #2	0.03	0.03	–	2.56	0.30	0.06
Generator #3	0.03	0.03	–	2.56	0.30	0.06
Generator #4	0.03	0.03	–	2.56	0.30	0.06
Generator #5	0.03	0.03	–	2.56	0.30	0.06
Generator #6	0.03	0.03	–	2.56	0.30	0.06
Total TPY	0.2	0.2	–	15.4	1.8	0.4

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

Applicants for a new minor source air emission license must demonstrate that its emissions, in conjunction with all other sources, will not violate applicable National Ambient Air Quality

Standards (NAAQS). This demonstration may be made through ambient air monitoring, dispersion modeling, or other alternative assessment techniques approved by the Department. The level of analysis depends on many factors including the size of the source and the regulated air pollutants to be emitted.

[06-096 C.M.R. ch. 115, § 7(A)]

The level of air quality analyses for a new minor source is determined by the Department on a case-by-case basis considering multiple factors including, but not limited to, similarity with other licensed sources in terms of size, emissions, and local topography, Good Engineering Practice (GEP) stack height, and the results of previous air quality analyses.

[06-096 C.M.R. ch. 115, § 7(C)(2)]

Although Generators #1 - #6 are emergency units intended to run intermittently and for relatively short durations, they have the potential for high short-term emissions of NO_x (306.6 lb/hr for all engines combined). The NAAQS for NO_x includes a standard on a 1-hour averaging period basis. Therefore, there is concern that even short-term use of multiple generators could potentially result in exceedances of the NAAQS. Additionally, it is not unreasonable to expect these units to operate continuously for 24 hours or more potentially resulting in exceedances of the Class II increment standard for PM_{2.5}.

To determine the appropriate mitigating measures, the Department undertook a qualitative analysis based on the equipment and operating scenarios proposed.

Kingfish's business needs require multiple generators to operate simultaneously during periods of equipment testing and use during emergency situations. However, the generators will operate on a monthly basis for exercise and maintenance purposes. Kingfish has proposed operating no more than one generator at a time during periods of regular monthly maintenance and exercise purposes. The Department agrees with this proposal and has incorporated this requirement into the Order section of this air emission license.

GEP stack height is defined in *Prohibited Dispersion Techniques*, 06-096 C.M.R. ch. 116, § 2(C). When a full GEP height stack is used, it is reasonably assured that emissions from a stack will not result in excessive concentrations at ground level as a result of aerodynamic effects from nearby structures or terrain features. When a stack less than full (100%) GEP height is used, it is assumed that surrounding structures or terrain have some interfering effect with the stack plume, with stacks less than 60% GEP height having significant detrimental plume impacts. Therefore, the Department has determined that Generators #1 - #6 shall exhaust through stacks that are at least 60% GEP height. Since the site's controlling structure (the nearby Building 2) is 45 feet tall, 60% GEP is calculated to be stacks that are at least 67.5 feet above ground level. The Department finds that use of stacks of at least this height are required to reasonably assure compliance with NAAQS and increment standards.

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-1157-71-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 commencing 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) **Generators #1 - #6**

- A. Kingfish shall install no more than six stationary emergency generators. [06-096 C.M.R. ch. 115, BACT]
- B. Each engine associated with Generators #1 - #6 shall have a maximum heat input not to exceed 23.5 MMBtu/hr (equivalent to a maximum fuel use of 171.3 gal/hr). Kingfish may install smaller units in place of these proposed units without an amendment to this air emission license. [06-096 C.M.R. ch. 115, BACT]
- C. Kingfish shall submit to the Department notice of the actual engine size (MMBtu/hr) for each generator based on information from the manufacturer's specification sheet. This notice is due no later than 30 days after engine startup on-site. [06-096 C.M.R. ch. 115, BACT]
- D. Generators #1 - #6 shall each be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 C.M.R. ch. 115, BACT]
- E. Kingfish shall operate no more than one generator at a time for the purposes of monthly maintenance or exercise. For other emergency or non-emergency purposes, Kingfish may operate more than one generator at a time. Kingfish shall keep records of the dates and times each generator operates for these purposes. [06-096 C.M.R. ch. 115, BACT]
- F. Each generator engine shall exhaust through a stack that is at least 67.5 feet above ground level. Compliance shall be demonstrated by as-built drawings showing the height of the stacks as installed. The Department may elect to independently verify stack height. [06-096 C.M.R. ch. 115, BACT]
- G. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.09	06-096 C.M.R. ch. 115, BACT
Generator #2	PM	0.09	06-096 C.M.R. ch. 115, BACT
Generator #3	PM	0.09	06-096 C.M.R. ch. 115, BACT
Generator #4	PM	0.09	06-096 C.M.R. ch. 115, BACT
Generator #5	PM	0.09	06-096 C.M.R. ch. 115, BACT
Generator #6	PM	0.09	06-096 C.M.R. ch. 115, BACT

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.58	0.58	0.04	51.10	6.09	1.21
Generator #2	0.58	0.58	0.04	51.10	6.09	1.21
Generator #3	0.58	0.58	0.04	51.10	6.09	1.21
Generator #4	0.58	0.58	0.04	51.10	6.09	1.21
Generator #5	0.58	0.58	0.04	51.10	6.09	1.21
Generator #6	0.58	0.58	0.04	51.10	6.09	1.21

I. Visible Emissions

Visible emissions from Generators #1 - #6 shall each not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

J. Generators #1 - #6 shall each meet the applicable requirements of 40 C.F.R. Part 60, Subpart IIII, including the following:
[incorporated under 06-096 C.M.R. ch. 115, 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 by weight). 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 tank containing the fuel to be fired. [40 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 115, BACT]

3. Non-Resettable 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 an emergency engine, 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, BACT]
- b. Kingfish shall keep records that include maintenance conducted on each engine and 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. Kingfish may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)]

- K. If the sum of the operating time for all six generators combined exceeds 3,900 hours on a 12-month rolling total basis, Kingfish shall submit to the Department an application for a Part 70 license pursuant to 06-096 C.M.R. ch. 140 within 12 months of the date the generators exceed this operating threshold. [06-096 C.M.R. ch. 140, § 3(B)(2)]

(18) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis. [06-096 C.M.R. ch. 101, § 3(C)]

(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, § 3(B)(4)]

DONE AND DATED IN AUGUSTA, MAINE THIS 17th DAY OF AUGUST, 2021.

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: 4/5/2021

Date of application acceptance: 4/6/2021

Date filed with the Board of Environmental Protection:

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

FILED
AUG 17, 2021
State of Maine
Board of Environmental Protection