



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

PAUL MERCER  
COMMISSIONER

**USDA National Cold Water  
Marine Aquaculture Center  
Hancock County  
Franklin, Maine  
A-925-71-C-R (SM)**

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

**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 Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

**I. REGISTRATION**

**A. Introduction**

US Department of Agriculture, Agricultural Research Service (USDA) has applied to renew their Air Emission License for the operation of emission sources associated with the National Cold Water Marine Aquaculture Center.

The equipment addressed in this license is located at 25 Salmon Farm Road, Franklin, Maine.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

**Generator**

<b>Equipment</b>	<b>Max. Input Capacity (MMBtu/hr)</b>	<b>Rated Output Capacity (kW)</b>	<b>Fuel Type, % sulfur</b>	<b>Max. Firing Rate (gal/hr)</b>	<b>Date of Manuf.</b>	<b>Date of Install.</b>	<b>Stack #</b>
Generator #1	8.5	800	Distillate fuel, 0.0015% by weight	61.8	12/03/2006	2007	1

C. Definitions

*Distillate Fuel.* For the purposes of this license, *distillate fuel* means the following:

1. 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;
2. Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
3. Kerosene, as defined in ASTM D3699;
4. Biodiesel, as defined in ASTM D6751; or
5. Biodiesel blends, as defined in ASTM D7467.

D. Application Classification

The application for the USDA does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of currently licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (CMR) 115 (as amended).

The facility is licensed below the major source thresholds for criteria pollutants and is considered a natural minor source. The facility is also licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of 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 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment.

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. Generator #1

The USDA operates one emergency generator. The emergency generator is a generator set consisting of an engine and an electrical generator. The emergency generator has an engine rated at 8.5 MMBtu/hr which fires distillate fuel. The emergency generator was manufactured on 12/03/2006.

1. BPT Findings

BACT for Generator #1 was established in license A-925-71-A-N, dated 10/13/2005. In addition to the limits that were provided within the initial BACT, Generator #1 is subject to emission standards defined in 40 CFR Part 60, Subpart IIII.

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

Pollutant	Emission Factor	Source of Emission Factor
PM/PM <sub>10</sub>	– 0.12 lb/MMBtu	06-096 CMR 103
SO <sub>2</sub>	– 0.0015 lb/MMBtu	Based on the combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO <sub>x</sub>	– 3.2 lb/MMBtu	AP-42 Table 3.4-1, dated 10/96
CO	– 0.85 lb/MMBtu	AP-42 Table 3.4-1, dated 10/96
VOC	– 0.09 lb/MMBtu	AP-42 Table 3.4-1, dated 10/96

The emission standards, as defined in 40 CFR Part 60, Subpart IIII are the following:

Pollutant	Emission Factor	Source of Emission Factor
PM	– 0.54 g/kW-hr	Table 1 of 40 CFR Part 60, Subpart IIII; directed from 40 CFR §60.4205(a)
NO <sub>x</sub>	– 9.2 g/kW-hr	
CO	– 11.4 g/kW-hr	
HC <sup>1</sup>	– 1.3 g/ kW-hr	

The emission standards provided by 40 CFR Part 60, Subpart IIII, when converted to lb/hr, are less stringent than the BPT limits previously established. In meeting the following emission limits, USDA will also meet applicable emission standards from 40 CFR Part 60, Subpart IIII.

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

Unit	Pollutant	lb/MMBtu
Generator #1	PM	0.12

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1 (8.5 MMBtu/hr) distillate fuel	1.02	1.02	0.01	27.20	7.23	0.77

<sup>1</sup> All emitted Hydrocarbons are assumed to be VOCs within this license.

Visible emissions from Generator #2 shall not exceed 20% opacity on a six-minute block average basis.

2. 40 CFR Part 60, Subpart IIII

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

a. Emergency Engine Designation and Operating Criteria

Under 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 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 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

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.**

[40 CFR §60.4211(f) and §60.4219]

b. 40 CFR Part 60, Subpart III Requirements

(1) Ultra-Low Sulfur Fuel Requirement

The fuel fired in the engine shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR §60.4207(b)]

(2) Non-Resettable Hour Meter Requirement

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

(3) Operation and Maintenance Requirements

- (i) The engine shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by the USDA that are approved by the engine manufacturer. The USDA may only change those emission-related settings that are permitted by the manufacturer.
- (ii) The USDA shall comply with the emission standards specified in §60.4205(a) and Table 1 of the subpart over the entire life of the engine.
- (iii) As an owner of a pre-2007 engine subject to the emission standards specified in §60.4205(a), the USDA shall demonstrate compliance according to one of the methods outlined in §60.4211(b). The USDA

demonstrates compliance with this by having purchased an engine certified according to 40 CFR Part 89.

- (iv) If the engine is not installed, configured, operated, or maintained in a way as directed by the manufacturer's written-instructions, or if emissions-related settings are changed in a way not permitted by the manufacturer, the USDA shall demonstrate compliance in the following way, as indicated in §60.4211(g)(3):

- (a) The USDA shall keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions.
- (b) The USDA shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within one year after the engine began operating or was maintained in a way not directed by the manufacturer's written-instructions or after the emission-related settings were changed in a way not permitted by the manufacturer.
- (c) Subsequent performance testing must be completed every 8,760 hours of operation or three years, whichever comes first, to demonstrate compliance with the applicable emission standards.

[40 CFR §60.4211(a),(c), and (g); and 40 CFR §60.4206]

(4) Annual Time Limit for Maintenance and Testing

As an emergency engine, the unit shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency 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 unless the conditions in §60.4211(f)(3)(i) are met). [40 CFR §60.4211(f)]

(5) Initial Notification Requirement

No initial notification is required under Subpart IIII for emergency engines. [40 CFR §60.4214(b)]

(6) Recordkeeping

The USDA 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, including what classified the operation as emergency, and the number of hours the unit operated for non-emergency purposes. [40 CFR §60.4214(b)]

C. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than five minutes in any one-hour period. Compliance shall be determined by an aggregate of the individual 15-second opacity observations which exceed 20% opacity in any one hour.

D. Annual Emissions

1. Total Annual Emissions

The USDA shall be restricted to the following annual emissions, on a calendar year total, basis. The tons per year limits were calculated based on 100 hours of non-emergency operation of Generator #1:

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

<b>Pollutant</b>	<b>Tons/Year</b>
PM	0.1
PM <sub>10</sub>	0.1
SO <sub>2</sub>	0.1
NO <sub>x</sub>	1.4
CO	0.4
VOC	0.1

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO<sub>2</sub>e).

The quantity of CO<sub>2</sub>e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's hours limit on the generator;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*; and

- global warming potentials contained in 40 CFR Part 98.

No additional licensing actions to address GHG emissions are required at this time.

### 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 CMR 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:

<b>Pollutant</b>	<b>Tons/Year</b>
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	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.

### 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-925-71-C-R 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.A. §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 CMR 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 CMR 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 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 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 CMR 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 CMR 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 CMR 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 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR 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 CFR 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 CMR 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 such test results, 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 CFR 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 CMR 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 Part 70 license requirement. [06-096 CMR 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 CMR 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 CMR 115]

**SPECIFIC CONDITIONS**

(16) Generator #1

A. Generator #1 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]

B. Emissions shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Generator #1	PM	0.12

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Generator #1 (8.5 MMBtu/hr) distillate fuel	1.02	1.02	0.01	27.20	7.23	0.77

[06-096 CMR 115, BPT; 06-096 CMR 103(2)(B)(1)(a)]

C. Visible Emissions

Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis. [06-096 CMR 115, BPT]

D. The Generators shall meet the applicable requirements of 40 CFR Part 60, Subpart III, including the following:

1. Ultra-Low Sulfur Fuel

The fuel fired in the engine shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [40 CFR §60.4207(b) and 06-096 CMR 115]

2. Non-Resetable Hour Meter

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

3. Annual Time Limit for Maintenance and Testing

a. As an emergency engine, Generator #1 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, non-emergency 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 unless the conditions in §60.4211(f)(3)(i) are met). These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written) of all engine operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115]

b. The USDA 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, including what classified the operation as emergency, and the number of hours the unit operated for non-emergency purposes.

4. Operation and Maintenance

a. The engine shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by the USDA that are approved by the engine manufacturer. The USDA may only change those emission-related settings that are permitted by the manufacturer.

- b. The USDA shall comply with the emission standards specified in 40 CFR §60.4205(a) and Table 1 of the subpart over the entire life of the engine.
- c. If the engine is not installed, configured, operated, or maintained in a way as directed by the manufacturer's written-instructions, or if emissions-related settings are changed in a way not permitted by the manufacturer, the USDA shall demonstrate compliance in the following way, as indicated in 40 CFR §60.4211(g)(3):
  - (i) The USDA shall keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions.
  - (ii) The USDA shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within one year after the engine began operating or was maintained in a way not directed by the manufacturer's written-instructions or after the emission-related settings were changed in a way not permitted by the manufacturer.
  - (iii) Subsequent performance testing must be completed every 8,760 hours of operation or three years, whichever comes first, to demonstrate compliance with the applicable emission standards.

[40 CFR §60.4211(a),(c), and (g); and 40 CFR §60.4206]

(17) **Fugitive Emissions**

Visible emissions from any fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than five minutes in any one-hour period. Compliance shall be determined by an aggregate of the individual 15-second opacity observations which exceed 20% in any one hour. [06-096 CMR 101]

USDA National Cold Water  
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A-925-71-C-R (SM)

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

- (18) The USDA 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.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 9 DAY OF September, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Marie Allen Robert Case for*  
PAUL MERCER, 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.A. §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: 06/29/2016

Date of application acceptance: 07/05/2016

Date filed with the Board of Environmental Protection:

This Order prepared by Colby Fortier-Brown, Bureau of Air Quality.

