

**Center for Cooperative
Aquaculture Research
Hancock County
Franklin, Maine
A-924-71-A-N**

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

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

The Center for Cooperative Aquaculture Research (CCAR) of Franklin, Maine has applied for an Air Emission License permitting the operation of emission sources associated with their Aquaculture Research facility.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Boiler #1	1.50	10.8	#2 Fuel Oil @ 0.35%	1
Boiler #2	1.50	10.8	#2 Fuel Oil @ 0.35%	1

Electrical Generation Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Back-up Generator #1	2.20	15.8	#2 Fuel Oil @ 0.35%	2
Back-up Generator #2	2.20	15.8	#2 Fuel Oil @ 0.35%	2
Back-up Generator #3	8.05	58.9	Diesel Fuel @ 0.05%	3

C. Application Classification

The new source is considered a major source based on whether or not expected emissions exceed the “Significant Emission Levels” as defined in the Department’s regulations. The Department has determined the facility is a minor source and the application has been processed through Chapter 115 of the Department’s regulations.

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 Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Department’s regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Boilers #1 and #2

Boiler #1 and #2 each have a rated maximum capacity of 1.5 MMBtu/hr and were installed in 2005. They are therefore **not** subject to the New Source Performance Standards (NSPS) Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989.

A summary of the BACT analysis for Boilers #1 and #2 is the following:

1. Chapter 106 regulates fuel sulfur content, however in this case the use of #2 fuel oil with a sulfur content not to exceed 0.35% is more stringent and shall be used.
2. The PM limits are derived from the BACT emission factor of 0.08 lb PM/MMBtu. The PM₁₀ limits are derived from the PM limits.
3. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 9/98.
4. Visible emissions from the boilers shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block averages in a continuous 3-hour period.

C. Back-up Generators #1 and #2

Back-up generators #1 and #2 are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable offsite power is available.

Back-up Generators #1 and #2 currently share a fuel tank with Boilers #1 and #2. The installation of a new fuel tank for these generators or the installation of approximately 200 feet of piping to tie in to the fuel tank for Back-up Generator #3 is not economically feasible. Therefore, BACT for Back-up Generators #1 and #2 shall be the use of #2 fuel oil with a sulfur content not to exceed 0.35%.

A summary of the BACT analysis for Back-up Generators #1 and #2 is the following:

1. Back-up generators #1 and #2 shall each be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by an hour meter and a written log of all generator operating hours.
2. The PM limits are derived from the BACT emission factor of 0.12 lb PM/MMBtu. The PM₁₀ limits are derived from the PM limits.
3. NO_x, CO, and VOC emission limits are based upon data supplied by the manufacturer.
4. Visible emissions from the stack shared by back-up generators #1 and #2 shall not exceed 30% opacity on a six (6) minute block average, except for no more than three (3), six (6) minute block averages in a continuous 3-hour period.

D. Back-up Generator #3

Back-up generator #3 is only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable offsite power is available.

A summary of the BACT analysis for Back-up Generator #3 is the following:

1. Back-up generator #3 shall be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by an hour meter and a written log of all generator operating hours.
2. The PM limits are derived from MEDEP Chapter 103. The PM₁₀ limits are derived from the PM limits.
3. NO_x, CO, and VOC emission limits are based upon data supplied by the manufacturer.

4. Visible emissions from back-up generator #3 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period.

E. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

F. General Process Emissions

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period.

G. Fuel Use Restrictions and Licensed Emissions

1. Boilers #1 and #2 shall be limited to firing #2 fuel oil with a sulfur content not to exceed 0.35%. Emissions shall be based on continuous operation.
2. Back-up generators #1 and #2 shall each be limited to 500 hours of operation on a 12 month rolling total. Back-up generators #1 and #2 shall fire only #2 fuel oil with a sulfur content not to exceed 0.35%.
3. Back-up generator #3 shall be limited to 500 hours of operation on a 12 month rolling total. Back-up generator #3 shall fire only diesel fuel with a sulfur content not to exceed 0.05%.
4. CCAR shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Licensed Annual Emission for the Facility

Tons/year

(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers #1 and #2	1.06	1.06	4.69	1.90	0.48	0.05
Back-up Generator #1	0.07	0.07	0.19	1.62	0.92	0.32
Back-up Generator #2	0.07	0.07	0.19	1.62	0.92	0.32
Back-up Generator #3	0.24	0.24	0.10	4.67	1.08	0.17
Total	1.44	1.44	5.17	9.81	3.40	0.86

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a minor **new** source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

The Department hereby grants Air Emission License A-924-71-A-N subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License 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 MRSA §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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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.

[MEDEP Chapter 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.

[MEDEP Chapter 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. [MEDEP Chapter 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 emission 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. [MEDEP Chapter 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. [MEDEP Chapter 115]

SPECIFIC CONDITIONS

(16) Boilers #1 and #2

- A. Boilers #1 and #2 shall fire only #2 fuel oil with a maximum sulfur content not to exceed 0.35% by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the sulfur content of the fuel. [MEDEP Chapter 115, BACT]
- B. Emissions shall not exceed the following for each boiler [MEDEP Chapter 115, BACT]:

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boilers #1 and #2 (each)	0.12	0.12	0.53	0.22	0.05	0.01

- C. Visible emissions from Boilers #1 and #2 shall each not exceed 20% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period. [MEDEP Chapter 101]

(17) Back-up Generators #1, #2, and #3

- A. CCAR shall limit the back-up generators to 500 hr/yr of operation each (based on a 12 month rolling total). An hour meter shall be maintained and operated for compliance purposes. [MEDEP Chapter 115, BACT]
- B. The back-up generators shall only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. The back-up generators shall not to be used for prime power when reliable offsite power is available. A log shall be maintained documenting the date, time, and reason for operation. [MEDEP Chapter 115, BACT]
- C. Back-up generators #1 and #2 shall fire #2 fuel oil with a sulfur content not to exceed 0.35% by weight. Back-up Generator #3 shall fire only diesel fuel with a content not to exceed 0.05% by weight. Compliance shall be based on fuel records from the supplier documenting the percent sulfur of the fuel. [MEDEP Chapter 115, BACT]

D. Emissions shall not exceed the following. [MEDEP Chapter 115, Chapter 103, BACT]:

Emission Unit		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Back-up Generators #1 and #2 (each)	lb/hr	0.27	0.27	0.78	6.47	3.67	1.27
Back-up Generator #3	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	0.97	0.97	0.42	18.68	4.30	0.68

E. Visible emissions from the stack shared by back-up generators #1 and #2 shall not exceed 30% opacity on a six (6) minute block average, except for no more than three (3), six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101]

F. Visible emissions from back-up generator #3 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101]

(18) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [MEDEP Chapter 101]

(19) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [MEDEP Chapter 101]

(20) CCAR 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 (Title 38 MRSA §605).

Center for Cooperative
Aquaculture Research
Hancock County
Franklin, Maine
A-924-71-A-N

10

Departmental
Findings of Fact and Order
Air Emission License

(21) **Payment of Annual License Fee**

CCAR shall pay the annual air emission license fee within 30 days of **October 31st** of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS _____ DAY OF _____ 2005.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 8/31/2005

Date of application acceptance: 9/14/2005

Date filed with the Board of Environmental Protection: _____

This Order prepared by Jonathan Voisine, Bureau of Air Quality.