



DEPARTMENT ORDER

Sweetwater Partners, LLC  
Cumberland County  
Portland, Maine  
A-1138-71-A-N

**Departmental  
Findings of Fact and Order  
New 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

Sweetwater Partners, LLC (Sweetwater) has applied for an Air Emission License for the operation of emission sources associated with their data center.

The equipment addressed in this license is located at 340 Cumberland Avenue, Portland Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

**Stationary Engines**

<u>Equipment</u>	<u>Max. Input Capacity (MMBtu/hr)</u>	<u>Rated Output Capacity (kW)</u>	<u>Fuel Type, % sulfur</u>	<u>Firing Rate (gal/hr)</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>
Generator 1	2.3	200	Distillate Fuel, 0.0015%	16.2	2001	2001
Generator 2	5.7	500	Distillate Fuel, 0.0015%	40.4	2001	2001

Sweetwater 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, Sweetwater 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.

C. Definitions

Distillate Fuel. For the purposes of this license, *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 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.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

Sweetwater is classified as an existing source that is applying for its first air emission license. 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 Code of Maine Rules (C.M.R.) ch. 115.

E. Facility Classification

With the operating hours restriction on the emergency generators, Sweetwater is licensed as follows:

- As a synthetic minor source of air emissions, because the licensed emissions are below the 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

Sweetwater operates a data center at 340 Cumberland Avenue in Portland, Maine, where they are one of multiple tenants that lease space in this building. There is one insignificant natural gas-fired boiler (<1.0 MMBtu/hr) at this address which services the entire building. There are also five stationary emergency generators, each of which serves a dedicated and separate portion of this building. The generator(s) that serve the portion of the building space being occupied by a tenant are under the control of that tenant. Two of the five stationary emergency generators on site are dedicated solely to Sweetwater's leased space, and are therefore under Sweetwater's direct control. Sweetwater only operates these two emergency generators for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the facility and when reliable offsite power is not available.

C. Generators 1 and 2

Sweetwater operates two emergency generators. The emergency generators are generator sets with each gen set consisting of an engine and an electrical generator. Generator 1 has a rated output of 200 kW and is driven by an engine with a maximum heat input capacity of 2.3 MMBtu/hr, while Generator 2 has a rated output of 500 kW and is driven by an engine with a maximum heat input capacity of 5.7 MMBtu/hr. Both generators fire distillate fuel, and both were manufactured and installed in 2001.

1. BACT Analysis

a. Particulate Matter (PM and PM<sub>10</sub>)

Particulate matter emissions from distillate fuel fired engines are generally controlled through proper operation and maintenance. Given the operating hours restrictions for emergency generators, the use of add-on controls for particulate matter is not economically feasible. BACT for PM and PM<sub>10</sub> emissions from Generators 1 and 2 shall be proper operation and maintenance of the units and the emission limits listed in the below tables.

b. Sulfur Dioxide (SO<sub>2</sub>)

As emergency engines that fire distillate fuel, operate for only short periods of time, and have annual non-emergency runtime limits of 100 hours per year, the use of additional SO<sub>2</sub> add-on control methods are not economically feasible due to the minimal emissions the engines might produce. BACT for SO<sub>2</sub> emissions from Generators 1 and 2 shall be the use of distillate fuel with a sulfur content no greater than 0.0015% by weight, and the emission limits listed in the below tables.

c. Nitrogen Oxides (NO<sub>x</sub>)

Selective Catalytic Reduction (SCR) and Selective Non-Catalytic Reduction (SNCR) are NO<sub>x</sub> control technologies that are sometimes used to reduce NO<sub>x</sub> emissions from distillate fuel fired engines. Because Generators 1 and 2 are emergency engines that are each limited to 100 hours of non-emergency operation per year, the use of SCR or SNCR would not be economically feasible. BACT for NO<sub>x</sub> emissions from Generators 1 and 2 shall be their proper operation and maintenance, and the emission limits listed in the below tables.

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

CO and VOC emissions from distillate fired generators are generally controlled through proper operation and maintenance. Oxidation catalysts have been used on large prime power engines to reduce CO and VOC emissions, but use on limited use emergency generators would not be economically feasible. BACT for CO and VOC emissions from Generators 1 and 2 shall be their proper operation and maintenance, and the emission limits listed in the below tables.

2. The BACT emission limits for the generators are based on the following:

a. Generator 1

PM/PM <sub>10</sub>	- 0.12 lb/MMBtu from 06-096 C.M.R. ch. 115, BACT
SO <sub>2</sub>	- combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO <sub>x</sub>	- 4.41 lb/MMBtu from AP-42, Table 3.3-1 dated 10/96
CO	- 0.95 lb/MMBtu from AP-42, Table 3.3-1 dated 10/96
VOC	- 0.36 lb/MMBtu from AP-42, Table 3.3-1 dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 115, BACT

b. Generator 2

PM/PM <sub>10</sub>	- 0.12 lb/MMBtu from 06-096 C.M.R. ch. 103
SO <sub>2</sub>	- 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 from AP-42, Table 3.4-1 dated 10/96
CO	- 0.85 lb/MMBtu from AP-42, Table 3.4-1 dated 10/96
VOC	- 0.09 lb/MMBtu from AP-42, Table 3.4-1 dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 115, BACT

c. The BACT emission limits for the generators are the following:

Unit	Pollutant	lb/MMBtu
Generator 2	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 2.3 MMBtu/hr Distillate fuel	0.27	0.27	0.01	9.99	2.15	0.82
Generator 2 5.7 MMBtu/hr Distillate fuel	0.68	0.68	0.01	18.11	4.81	0.51

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

- e. Each of the emergency generators shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. There is no limit on emergency operation. Each emergency generator shall be equipped with a non-resettable hour-meter to record operating time. To demonstrate compliance with the operating hours limit, Sweetwater shall keep records of the total hours of operation for each unit, with a separate entry for each runtime event. Each entry shall indicate the duration of the runtime event, the reason for operation, and whether the event was for emergency or non-emergency purposes, for each unit.

Emergency generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency generators are not to be used for prime power when reliable offsite power is available; nor to operate or to be contractually obligated to be available in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity.

3. New Source Performance Standards (NSPS)

Due to the dates of manufacture of the compression ignition emergency engines listed above, the engines are not subject to the New Source Performance Standards (NSPS) *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, 40 C.F.R. Part 60, Subpart III since the units were manufactured prior to April 1, 2006. [40 C.F.R. § 60.4200]

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

*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ is not applicable to the emergency engines listed above. The units are considered existing, emergency stationary reciprocating internal combustion engines at an area HAP source. However, they are considered exempt from the requirements of 40 C.F.R. Part 63, Subpart ZZZZ since they are categorized as commercial emergency engines and they do not operate nor are they contractually obligated to be available in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 63.6640(f)(4)(ii).

Operation of any emergency engine in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 63.6640(f)(4)(ii), would cause the engine to be subject to 40 C.F.R. Part 63, Subpart ZZZZ and require compliance with all applicable requirements.

D. Annual Emissions

1. Total Annual Emissions

Sweetwater shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on each of the two emergency generators operating for 100 hours per year.

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

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Generator 1	0.01	0.01	0.01	0.50	0.11	0.04
Generator 2	0.03	0.03	0.01	0.91	0.24	0.03
<b>Total TPY</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>1.4</b>	<b>0.4</b>	<b>0.1</b>

<b>Pollutant</b>	<b>Tons/year</b>
Single HAP	9.9
Total HAP	24.9

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 C.F.R. Part 52, Subpart A, § 52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 C.M.R. ch. 100, 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 operating hour limits on the two emergency generators;
- worst case emission factors from the following sources: U.S. EPA’s AP-42, the Intergovernmental Panel on Climate Change (IPCC), and *Mandatory Greenhouse Gas Reporting*, 40 C.F.R. Part 98; and
- global warming potentials contained in 40 C.F.R. 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 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 <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-1138-71-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 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 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 Part 70 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]

#### **SPECIFIC CONDITIONS**

(16) **Generators 1 and 2**

- A. Generators 1 and 2 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]
- B. Generators 1 and 2 shall each be equipped with a non-resettable hour-meter to record operating time. [06-096 C.M.R. ch. 115, BACT]
- C. 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. Generators 1 and 2 are not to be used for prime power when reliable offsite power is available; nor to operate or to be contractually obligated to be available in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity. [06-096 C.M.R. ch. 115, BACT]

- D. Sweetwater shall keep records that include the hours of operation of each generator 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. [06-096 C.M.R. ch. 115, BACT]
- E. The sulfur content of the fuel fired in Generators 1 and 2 shall not exceed 15 ppm sulfur (0.0015% sulfur) by weight. 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. [06-096 C.M.R. ch. 115, BACT]
- F. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator 2	PM	0.12	06-096 C.M.R. ch. 115, BACT

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

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 (2.3 MMBtu/hr) Distillate fuel	0.27	0.27	0.01	9.99	2.15	0.82
Generator 2 (5.7 MMBtu/hr) Distillate fuel	0.68	0.68	0.01	18.11	4.81	0.51

H. Visible Emissions

Visible emissions from each of the distillate fuel-fired generators shall each not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

- (17) Sweetwater 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).

DONE AND DATED IN AUGUSTA, MAINE THIS 19 DAY OF November, 2018.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for  
MELANIE LOYZIM, ACTING 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: September 24, 2018

Date of application acceptance: September 28, 2018

Date filed with the Board of Environmental Protection:

This Order prepared by Patric J. Sherman, Bureau of Air Quality.

