



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**Limestone Water & Sewer District
Aroostook County
Limestone, Maine
A-1043-71-B-R/A (SM)**

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

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

Limestone Water & Sewer District (LWSD) has applied to renew their Air Emission License for the operation of emission sources associated with their wastewater treatment facility. LWSD has also requested the removal of Generator #1, addressed in the previous license, and the subsequent replacement in this renewal by a new Generator #1.

The equipment addressed in this license is located at 6 Water Company Street, Limestone, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Emergency Generators

<u>Equipment</u>	<u>Horse Power (KW)</u>	<u>Maximum Heat Input Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>
Generator #1	250	3.0	21.9 ¹	Distillate fuel, 0.0015%	1990

¹ Estimated based on 3.0MMBtu/hr heat input capacity and a diesel heating value of 0.137 MMBtu/gal

Equipment	Horse Power (KW)	Maximum Heat Input Capacity (MMBtu/hr)	Firing Rate (gal/hr)	Fuel Type, % sulfur	Date of Manuf.
Generator #2	60	0.6	4.3	Distillate fuel, 0.0015%	1980
Generator #3	125	1.5	10.7	Distillate fuel, 0.0015%	2009
Generator #4	125	1.5	10.7	Distillate fuel, 0.0015%	2009
Generator #5	800	7.8	57.2	Distillate fuel, 0.0015%	2010

C. Definitions

Distillate Fuel means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials 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.

D. Application Classification

The application for LWSD includes the licensing of decreased emissions and the installation of a new piece of equipment. The license is therefore considered to be both a renewal and an amendment of the current air emission license per *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended). With the operating hours restriction on the emergency generators, the facility is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor. Because of the restrictions, the facility is also licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the "Significant Emission" levels as defined in the Department's *Definitions Regulation*, 06-096 CMR 100 (as amended). The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License² (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Emission Levels</u>
PM	0.5	0.14	-0.36	100
PM ₁₀	0.5	0.14	-0.36	100
SO ₂	0.4	0.04	-0.36	100
NO _x	14.4	2.57	-11.83	100
CO	3.7	0.61	-3.09	100
VOC	0.8	0.15	-0.65	50

This modification is determined to be a minor modification and has been processed as such.

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 new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

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. Process/Equipment Description

LWSD owns, operates, and maintains the wastewater treatment facility at the Loring Development Authority which was created as a result of the consolidation of the Limestone Water & Sewer District's and Loring Development Authority's wastewater treatment facilities. LWSD operates four emergency/back-up diesel generators rated

² TPY is now calculated based on 100 hr/year of operation for each emergency generator, rather than the 500 hr/year basis used at the time of issuance of the previous license. Actual emissions from the replacement of Generator #1 (OLD) with a new unit are expected to decrease because the new unit is smaller.

higher than 1 MMBtu/hr and one additional generator, Generator #2, is rated at 0.6 MMBtu/hr.

C. Generator #1 and Generator #2

Generator #1 is a generator set consisting of an engine and an electrical generator. The emergency generator has an engine rated at 3.0 MMBtu/hr, which fires distillate fuel. The emergency generator was manufactured in 1990 and installed in 2012.

Generator #2 is a generator set consisting of an engine and an electrical generator. The emergency generator has an engine rated at 0.6 MMBtu/hr, which fires distillate fuel. The emergency generator was manufactured in 1980 and installed in 2015. Generator #2 has a maximum heat input capacity of less than 1.0 MMBtu/hour and is therefore considered to be an insignificant activity per 06-096 CMR 115. Despite being considered an insignificant activity, Generator #2 is still subject to federal requirements.

1. BACT Findings for Generator #1

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

<u>Unit</u>	<u>PM</u> (lb/MMBtu)	<u>PM₁₀</u> (lb/MMBtu)	<u>SO₂</u> (lb/MMBtu)	<u>NO_x</u> (lb/MMBtu)	<u>CO</u> (lb/MMBtu)	<u>VOC</u> (lb/MMBtu)
Generator #1 (3.0 MMBtu/hr) Distillate fuel	0.12 06-096 CMR 103 (2)(B(1)(a))	0.12 06-096 CMR 103 (2)(B(1)(a))	0.0015 Based on use of distillate fuel with a maximum sulfur content of 0.0015% by weight	4.41 AP-42 Table 3.3-1 (10/96)	0.95 AP-42 Table 3.3-1 (10/96)	0.36 AP-42 Table 3.3-1 (10/96)

The following limits are BACT for Generator #1:

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

<u>Unit</u>	<u>PM</u> (lb/hr)	<u>PM₁₀</u> (lb/hr)	<u>SO₂</u> (lb/hr)	<u>NO_x</u> (lb/hr)	<u>CO</u> (lb/hr)	<u>VOC</u> (lb/hr)
Generator #1 (3.0 MMBtu/hr) Distillate fuel	0.36	0.36	0.01	13.23	2.85	1.08

Visible emissions from Generator #1 shall not exceed 20% opacity on a 6-minute block average basis. [06-096 CMR 101]

2. NSPS 40 CFR Part 60, Subpart IIII

Due to the date of manufacture of Generator #1 and Generator #2, the federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* is not applicable to these two units.

3. 40 CFR Part 63, Subpart ZZZZ

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is applicable to Generator #1 and Generator #2. The two generators are considered existing, emergency stationary reciprocating internal combustion engines at an area HAP source and are not subject to New Source Performance Standards regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt these units from the federal requirements.

a. Emergency Definition:

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

- (1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary RICE in emergency situations.
- (2) Paragraph (1) above notwithstanding, the emergency stationary RICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:
 - (i) 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 RICE beyond 100 hours per calendar year.

- (ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, *Capacity and Energy Emergencies*, or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
 - (iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Paragraphs (1) and (2) above notwithstanding, emergency stationary RICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for 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:

- (i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
- (iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (iv) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

Generator #1 and Generator #2 shall each be limited to the usage outlined in §63.6640(f) and therefore may be classified as existing emergency stationary RICE as defined in 40 CFR Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in §63.6640(f) may cause either engine to not be considered an emergency engine and therefore subject to all the requirements for non-emergency engines.

b. 40 CFR Part 63, Subpart ZZZZ Requirements:

(1) Operation and Maintenance Requirements

	Operating Limitations (40 CFR §63.6603(a) and Table 2(d))
Compression ignition (distillate fuel) units: Generator #1 Generator #2	<ul style="list-style-type: none">- Change oil and filter every 500 hours of operation or annually, whichever comes first;- Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions, or LWSD shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation each engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

(2) Optional Oil Analysis Program

LWSD has the option of utilizing an oil analysis program which complies with the requirements of §63.6625(i) in order to extend the specified oil change requirement. If this option is used, LWSD must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for each engine. The analysis program must be part of the maintenance plan for each engine. [40 CFR §63.6625(i)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each engine. [40 CFR §63.6625(f)]

(4) Startup Idle and Startup Time Minimization Requirements

During periods of startup the facility must minimize each engine's time spent at idle and minimize each engine's startup time to a period needed for appropriate and safe loading of each engine, not to exceed 30 minutes. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]

(5) Annual Time Limit for Maintenance and Testing

As emergency engines, Generator#1 and Generator #2 shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. 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. [40 CFR §63.6640(f)]

(6) Recordkeeping

LWSD 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 hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If each engine is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), LWSD shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [40 CFR §63.6655(e) and (f)]

(7) Requirements for Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)

If LWSD operates or is contractually obligated to be available for more than 15 hours per calendar year 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 as specified in §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in §63.6650(h)(1)(i) through (ix). The annual report for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100 (OES04-2)
Boston, MA 02109-3912
Attn: Air Compliance Clerk

D. Generators #3, #4, and #5

LWSD operates 3 other emergency generators, Generators #3, #4, and #5. The emergency generators are generator sets with each set consisting of an engine and an electrical generator. The emergency generators have engines rated at 1.5 MMBtu/hr, 1.5 MMBtu/hr, and 7.8 MMBtu/hr respectively, and each fire distillate fuel. The emergency generators were manufactured in 2009, 2009, and 2010, respectively.

1. BPT for Generators #3, #4, and #5

The BPT emission limits for Generators #3, #4, and #5 are based on the following:

<u>Unit</u>	<u>PM (lb/MMBtu)</u>	<u>PM₁₀ (lb/MMBtu)</u>	<u>SO₂ (lb/MMBtu)</u>	<u>NO_x (lb/MMBtu)</u>	<u>CO (lb/MMBtu)</u>	<u>VOC (lb/MMBtu)</u>
Generator #3 (1.5 MMBtu/hr) Distillate fuel	0.31 AP-42 Table 3.3-1 (10/96)	0.31 AP-42 Table 3.3-1 (10/96)	0.0015 Based on use of distillate fuel with a maximum sulfur content of 0.0015% by weight and 06-096 CMR 115, BPT	4.41 AP-42 Table 3.3-1 (10/96)	0.95 AP-42 Table 3.3-1 (10/96)	0.36 AP-42 Table 3.3-1 (10/96)
Generator #4 (1.5 MMBtu/hr) Distillate fuel	0.31 AP-42 Table 3.3-1 (10/96)	0.31 AP-42 Table 3.3-1 (10/96)	0.0015 Based on use of distillate fuel with a maximum sulfur content of 0.0015% by weight and 06-096 CMR 115, BPT	4.41 AP-42 Table 3.3-1 (10/96)	0.95 AP-42 Table 3.3-1 (10/96)	0.36 AP-42 Table 3.3-1 (10/96)
Generator #5 (7.8 MMBtu/hr) Distillate fuel	0.12 06-096 CMR 103 (2)(B)(1)(a)	0.12 06-096 CMR 103 (2)(B)(1)(a)	0.0015 Based on use of distillate fuel with a maximum sulfur content of 0.0015% by weight and 06-096 CMR 115, BPT	3.2 AP-42 Table 3.4-1 (10/96)	0.85 AP-42 Table 3.4-1 (10/96)	0.09 AP-42 Table 3.4-1 (10/96)

The BPT emission limits for Generators #3, #4, and #5 are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Generator #5	PM	0.12

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #3 (1.5 MMBtu/hr) Distillate fuel	0.47	0.47	0.01	6.62	1.43	0.54
Generator #4 (1.5 MMBtu/hr) Distillate fuel	0.47	0.47	0.01	6.62	1.43	0.54
Generator #5 (7.8 MMBtu/hr) Distillate fuel	0.94	0.94	0.01	24.96	6.63	0.71

Visible emissions from each of the distillate fuel-fired emergency generators shall not exceed 20% opacity on a 6-minute block average basis, except for no more than two six-minute block averages in a three-hour period.

2. 40 CFR Part 60, Subpart III

The federal regulation 40 CFR Part 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* is applicable to Generators #3, #4, and #5 listed above since the units were ordered after July 11, 2005 and manufactured after April 1, 2006. By meeting the requirements of Subpart III, the units also meet the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ.

a. Emergency Definition:

Emergency stationary ICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

- (1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary ICE in emergency situations.
- (2) Paragraph (1) above notwithstanding, the emergency stationary ICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:
 - (i) 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 beyond 100 hours per calendar year.

- (ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies, or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
- (iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

- (3) Paragraphs (1) and (2) above notwithstanding, emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for 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, except if the following conditions are met:

- (i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
- (iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (iv) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR §60.4211(f) and §60.4219]

b. 40 CFR Part 60, Subpart IIII Requirements:

(1) Manufacturer Certification Requirement

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in the engines 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)]

(3) Non-Resettable Hour Meter Requirement

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

(4) Operation and Maintenance Requirements

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions, or procedures developed by LWSD that are approved by the engine manufacturer. LWSD may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

(5) Annual Time Limit for Maintenance and Testing

As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. 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)]

(6) Initial Notification Requirement

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

(7) Recordkeeping

LWSD 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 hours spent for emergency operation, including what classified the operation as emergency and how

many hours spent for non-emergency. If the engines are operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), LWSD shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [40 CFR §60.4214(b)]

(8) Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year (for engines greater than 100 brake hp)

If LWSD operates or is contractually obligated to be available for more than 15 hours per calendar year 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 as specified in §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in §60.4214(d)(1)(i) through (vii). The annual report for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100 (OES04-2)
Boston, MA 02109-3912
Attn: Air Compliance Clerk

[40 CFR §60.4214(d)]

E. Annual Emissions

1. Total Annual Emissions

LWSD shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on 100 hours of operation for each unit:

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Generator #1	0.05	0.05	0.01	0.66	0.14	0.05
Generator #3	0.02	0.02	0.01	0.33	0.07	0.03
Generator #4	0.02	0.02	0.01	0.33	0.07	0.03
Generator #5	0.05	0.05	0.01	1.25	0.33	0.04
Total TPY	0.14	0.14	0.04	2.57	0.61	0.15

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 (CO₂e).

The quantity of CO₂e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility’s fuel use limit;
- 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 shall be determined by the Department on a case-by case basis. 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, In accordance with 06-096 CMR 115:

<u>Pollutant</u>	<u>Tons/Year</u>
PM ₁₀	25
SO ₂	50
NO _x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

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-1043-71-B-R/A 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 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 and Generator #2

A. Generator #1 and Generator #2 shall each be limited to 100 hours of operation per calendar year for maintenance checks and readiness testing,, excluding operating hours during emergency situations. Of those 100 hours per year, up to 50 of the hours may be used for the following purposes:

1. Emergency demand response participation;
2. Periods of voltage or frequency deviation of 5% or greater from standards;
3. Other non-emergency operation. Other non-emergency operations shall not include peak shaving, non-emergency demand response participation, the generation of income for a facility by providing power to a power grid, or the supplying of power as part of a financial arrangement with another entity unless the conditions in 40 CFR 63.6640(f)(4)(ii) are met.

There is no limitation on the hours of operation of an emergency engine for emergency purposes.

Compliance shall be demonstrated by records (electronic or written logs) of all engine operating hours and the purpose of operation for each occasion an engine was operated.

[06-096 CMR 115, BACT]

- B. The distillate fuel fired in Generator #1 and Generator #2 shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BACT]

C. Emissions Shall not exceed the following:

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

D. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Generator #1 (3.0 MMBtu/hr) Distillate fuel	0.36	0.36	0.01	13.23	2.85	1.08

E. Visible Emissions

1. Visible emissions from each distillate fuel-fired generator shall not exceed 20% opacity on a 6-minute block average basis. [06-096 CMR 101]

F. Generator #1 and Generator #2 shall each meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:

1. LWSD shall meet the following operational limitations for each compression ignition emergency engine:
 - a. Change the oil and filter annually,
 - b. Inspect the air cleaner annually and replace as necessary, and
 - c. Inspect the hoses and belts annually and replace as necessary.

Records shall be maintained documenting compliance with the operational limitations.

[40 CFR §63.6603(a) and Table 2(d); and 06-096 CMR 115]

2. Oil Analysis Program Option

LWSD has the option of utilizing an oil analysis program which complies with the requirements of §63.6625(i) in order to extend the specified oil change requirement. If this option is used, LWSD shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for each engine. The analysis program shall be part of the maintenance plan for each engine. [40 CFR §63.6625(i)]

3. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on Generator #1 and on Generator #2. [40 CFR §63.6625(f)]

4. Maintenance, Testing, and Non-Emergency Operating Situations

a. Each emergency engine shall be limited to **100 hours of operation per calendar year** for the following purposes:

- (1) Maintenance checks and readiness testing
- (2) Emergency demand response participation
- (3) Periods of voltage or frequency deviation of 5% or greater below standards
- (4) Other non-emergency operations.³

These other non-emergency operations may occur for **up to 50 hours of the above specified 100 hours** of operation per calendar year.

There is no limitation on the hours of operation of an emergency engine for emergency purposes.

Compliance shall be demonstrated by records (electronic or written logs) of all engine operating hours and the purpose of operation for each occasion an engine was operated.

[40 CFR §63.6640(f) and 06-096 CMR 115]

b. LWSD 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 hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the engine is operated during a period of demand response or deviation from standard voltage or frequency, LWSD shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [40 CFR §63.6655(e) and (f)]

5. Operation and Maintenance

Generator #1 and Generator #2 shall each be operated and maintained according to the manufacturer's emission-related written instructions, or LWSD shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

³ Other non-emergency operations shall not include peak shaving, non-emergency demand response participation, the generation of income for a facility by providing power to a power grid, or the supplying of power as part of a financial arrangement with another entity unless the conditions in 40 CFR §63.6640(f)(4)(ii) are met.

6. Startup Idle and Startup Time Minimization
During periods of startup, the facility shall minimize each engine's time spent at idle and minimize each engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]
7. Requirements For Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)
 - a. If LWSD operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, the facility shall submit an annual report containing the information in §63.6650(h)(1)(i) through (ix). The annual report for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100 (OES04-2)
Boston, MA 02109-3912
Attn: Air Compliance Clerk

[40 CFR §63.6650(h)]

(17) Generators #3, #4, and #5

- A. Each of the emergency generators shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115, BPT]
- B. Emissions shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Generator # 5	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

C. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #3 (1.5 MMBtu/hr) Distillate fuel	0.47	0.47	0.00	6.62	1.43	0.54
Generator #4 (1.5 MMBtu/hr) Distillate fuel	0.47	0.47	0.00	6.62	1.43	0.54
Generator #5 (7.8 MMBtu/hr) Distillate fuel	0.94	0.94	0.01	24.96	6.63	0.71

D. Visible Emissions

1. Visible emissions from each of the distillate fuel-fired generators shall each not exceed 20% opacity on a six minute block average basis, except for no more than two six-minute block averages in a continuous 3-hour period. [06-096 CMR 101]

E. Generators #3, #4, and #5 shall meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:

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 CFR §60.4205(b)]

2. Ultra-Low Sulfur Fuel

The fuel fired in the engines 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]

3. Non-Resettable Hour Meter

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

4. Annual Time Limit for Maintenance and Testing

a. Each emergency engine shall be limited to **100 hours of operation per calendar year** for the following purposes:

- (1) Maintenance checks and readiness testing
- (2) Emergency demand response participation

(3) Periods of voltage or frequency deviation of 5% or greater below standards

(4) Other non-emergency operations.⁴

These other non-emergency operations may occur for **up to 50 hours of the above specified 100 hours** of operation per calendar year.

There is no limitation on the hours of operation of an emergency engine for emergency purposes.

Compliance shall be demonstrated by records (electronic or written logs) of all engine operating hours and the purpose of operation for each occasion an engine was operated.

[40 CFR §63.6640(f) and 06-096 CMR 115]

b. LWSD 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 hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the engines are operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), the LWSD shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

5. Operation and Maintenance

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by LWSD that are approved by the engine manufacturer. LWSD may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

6. Annual Reporting For Demand Response Availability Over 15 Hours Per Year (for engines greater than 100 brake hp)

If LWSD operates or is contractually obligated to be available for more than 15 hours per calendar year 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 as specified in §60.4211(f)(3)(i), the facility shall submit an annual report containing

⁴ Other non-emergency operations shall not include peak shaving, non-emergency demand response participation, the generation of income for a facility by providing power to a power grid, or the supplying of power as part of a financial arrangement with another entity unless the conditions in 40 CFR §63.6640(f)(4)(ii) are met.

Limestone Water & Sewer District
Aroostook County
Limestone, Maine
A-1043-71-B-R/A (SM)

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the information in §60.4214(d)(1)(i) through (vii). The annual report for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100 (OES04-2)
Boston, MA 02109-3912
Attn: Air Compliance Clerk

[40 CFR §60.4214(d)]

- (18) LWSD 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 26 DAY OF May, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Corne for
PAUL MERCER, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a complete renewal application, as determined 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 renewal of the license.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/18/2015

Date of application acceptance: 12/02/2015

Date filed with the Board of Environmental Protection:

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

