



DEPARTMENT ORDER

**Lewiston Auburn Water Pollution
Control Authority
Androscoggin County
Lewiston, Maine
A-1054-71-F-R/A (SM)**

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

FINDINGS OF FACT

After review of the air emission license amendment 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

Lewiston Auburn Water Pollution Control Authority (LAWPCA) has applied to renew their Air Emission License for the operation of emission sources associated with their waste water treatment facility.

In addition, LAWPCA has requested an amendment to their license in order to rebuild and reinstall the engine in Cogeneration Unit #2. This engine is being rebuilt due to a catastrophic failure of the original engine.

LAWPCA has requested the addition of operation flexibility language to allow for the replacement or rebuilding of the engines in the cogeneration units with like kind parts or equipment.

The equipment addressed in this license is located at 535 Lincoln Street in Lewiston, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license renewal:

Cogeneration Units

<u>Equipment</u>	<u>Max. Input Capacity (MMBtu/hr)</u>	<u>Rated Output Capacity (kW or HP)</u>	<u>Fuel Type</u>	<u>Firing Rate (gal/hr)</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>	<u>Stack #</u>
Cogeneration Unit #1	2.23	230 kW	Biogas	4055 scf/hr	2015	2015	1
			Natural Gas Back-up	2186 scf/hr	2015	2015	1
Cogeneration Unit #2	2.23	230 kW	Biogas	4055 scf/hr	2012	2016	2
			Natural Gas Back-up	2186 scf/hr	2012	2016	2

Boilers and Flare

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>	<u>Stack #</u>
Boiler 1	2.2	3974 scf/hr	Biogas	2011	2011	3
		2157 scf/hr	Natural gas	2011	2011	
Boiler 2	2.2	3974 scf/hr	Biogas	2011	2011	3
		2157 scf/hr	Natural gas	2011	2011	
Emergency Flare	5.5	10,000 scf/hr	Biogas	2011	2011	4

Emergency Generator

<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>
Emergency Generator	6.3	600	Distillate, 0.0015%	44.9	1995	1996

C. 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.

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 Code of Maine Rules (C.M.R.) ch. 100. The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions.

Since the licensed emissions from the Cogeneration Unit #2 spark ignition engine rebuild and installation are not proposed to increase the current licensed emissions, this modification is determined to be a minor modification.

In addition, the application for the facility also includes the licensing of existing units. Therefore, the license is also considered to be a renewal of currently licensed emission units as well as a minor modification and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115.

With the emission limits based on the Cogeneration Units and Boilers operating 8760 hours per year and the operating hours restriction on the emergency generator, the facility is licensed as follows:

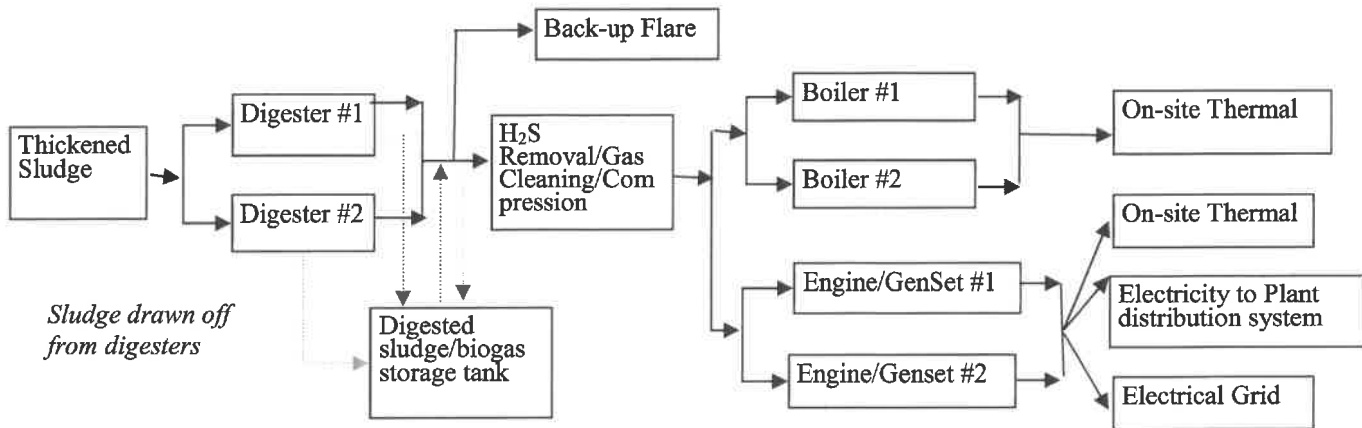
- As a synthetic minor source of air emissions, because the licensed emissions are below the major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

Process Description

LAWPCA’s facility includes an anaerobic digester cogeneration system with two digester units that produce biogas from municipal waste sludge. The biogas provides fuel for two spark ignition engines/generator sets which produce thermal energy for on-site use and electricity for onsite use or for the grid. The system also includes two biogas fired boilers in case the amount of heat reclaimed from the cogeneration system is not enough to meet the heating needs of the digester during colder weather or there is a shutdown of one or both of the engines resulting in an inadequate supply of heat. The spark ignition engines/generator sets and boilers are equipped with natural gas as back-up fuel.

Any excess digester gas produced during normal operations or during downtime of the spark ignition engines/generator sets and/or the boilers shall be burned in a flare.

Below is a simplified diagram of LAWPCA's process:



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.

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. Cogeneration Units

LAWPCA operates two cogeneration units that fire biogas produced from an anaerobic digester cogeneration system and natural gas as backup fuel. The two generator sets are each powered by a 230 kW reciprocating spark ignition engine (2.23 MMBtu/hr, 308 hp) and fire biogas produced from the anaerobic digesters with natural gas as back-up fuel. The cogeneration units are considered combined heat and power spark ignition engine/gen sets (producing both thermal heat for the facility and electrical energy). The engines vent through individual stacks, at least 17 feet in height.

Since the installation of the Cogeneration Units, Cogeneration #1 has suffered a catastrophic failure and was replaced with a like kind engine (A-1054-71-E-A, 11/3/2015).

C. Engine Rebuild and Replacement

On April 28, 2016, the engine in Cogeneration Unit #2 failed catastrophically when the #3 cylinder overheated and failed, ultimately resulting in the failure of the engine.

LAWPCA proposes to rebuild and re-install Cogeneration Unit #2 engine. The performance characteristics and emissions are expected to be the same as was originally licensed in A-1054-71-A-N (issued June 1, 2011) for Cogeneration Unit #2.

LAWPCA has requested operational flexibility language be added to this license to allow for the rebuild of an engine or the replacement of an engine with a similar make and model. Replacement or rebuilding of an engine has no effect on engine output or air emissions. LAWPCA shall notify the Department in writing in advance of an engine rebuild or like kind replacement.

NSPS Applicability

The rebuilt engine is subject to the New Source Performance Standards (NSPS) 40 C.F.R. Part 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*. The applicability for the engine is under the category of engines manufactured on or after July 1, 2008 with a maximum engine power less than 500 hp (§ 60.4230(a)(4)(iii)). The engine is required to be certified to the standards of Subpart JJJJ, Table 1, either by manufacturer certification or performance testing.

NESHAP Applicability

The replacement engine is subject to 40 C.F.R. Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines*. The engine is considered a new stationary reciprocating internal combustion engine at an area HAP source (construction commenced on or after June 12, 2006); however, since the unit is subject to 40 C.F.R. Part 60, Subpart JJJJ there are no further requirements under 40 C.F.R. Part 63, Subpart ZZZZ (§ 63.6590(c)(1)).

1. BACT

LAWPCA submitted a BACT analysis as part of the license application for the original engines in 2011. There have been no substantial emission control technology advances for this type and size engine since the original BACT analysis. The BACT analysis for the rebuilt engine is the same as the original engine and is summarized below.

PM/PM₁₀— The options for controlling particulate matter from the engine include add-on controls and good operating practices. Add on-controls were not considered economically feasible. The anaerobic digester system includes gas cleaning using a particulate filter to remove particulate matter from the biogas prior to combustion. The engine has fuel and air filters which further remove particulates and improve engine performance and reliability. These filters, the inherent combustion efficiencies of a new unit, and good operating practices are BACT. The PM emission limit for the engine was based on emission factors obtained from the San Diego Air Pollution Control District (27.6 lb/MMft³ for biogas and 10.19 lb/MMft³ for natural gas).

The BACT emission limits for PM and PM₁₀ from the engine is the following:

PM and PM₁₀ lb/hr Emission Limits

	Biogas	Natural Gas
PM	0.11	0.02
PM ₁₀	0.11	0.02

SO₂ – Sulfur dioxide emissions result from the combustion oxidation of hydrogen sulfide (H₂S) and possibly other reduced sulfur compounds formed through the reduction of sulfates by anaerobic bacteria within the digester. Sulfates occur naturally in wastewater through the decomposition of urine and protein in the influent sludge. H₂S removal systems include chemical treatment such as the addition of ferric chloride to the digesters or flow-through systems that utilize iron-oxide impregnated wood chip media (iron sponge system). The iron sponge technology is considered a proven technology in the wastewater industry. When biogas comes into contact with iron sponge media, a chemical reaction with the oxides effectively removes the hydrogen sulfide from the biogas. After the biogas passes through the media, a stable iron sulfide compound remains on the wood chips. The iron sponge media is housed in large corrosion resistant vessels (stainless steel or reinforced fiberglass) and disposed of as a non-hazardous waste.

The use of the iron sponge or comparable biogas treatment system in the gas cleaning system is BACT, with the SO₂ emission limit for the engine based on data provided by the engine manufacturer.

The BACT emission limit for SO₂ from the engine is the following:

SO₂ lb/hr Emission Limits

	Biogas	Natural Gas
SO ₂	0.02	0.002

NO_x – NO_x emissions from internal combustion engines are primarily reduced either by combustion controls such as design modifications to improve air and fuel mixing, Ignition Timing Retard, lean burn and air to fuel adjustment, exhaust gas recirculation, water or steam injection, and combustion of biogas fuel; or by using control systems such as selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR).

SCR is an add-on control which uses urea or ammonia injection along with a catalyst to react with the NO_x in the flue gas to form water and nitrogen. SCR catalysts have improved significantly and are in use in some diesel fueled engines. However, SCR technologies are not generally used for biogas-fueled engines primarily due to the poisoning of the catalyst by the various compounds found in digester or landfill gas. In several California Air Districts, use of SCR in landfill gas fueled engines is experimental and there are no known stable, long-term operations of SCR on similar waste gas systems in practice. Therefore, SCR was not considered technologically feasible for LAWPCA.

SNCR is an add-on control which also uses ammonia or urea injection, but without a catalyst. The reaction requires the injection point at a specific temperature (1600-2100°F), which is above the expected exhaust temperature for the LAWPCA generators, therefore SNCR was not considered feasible for the facility.

Exhaust gas recirculation, where exhaust gas is recirculated back to the combustion chamber, reduces NO_x formation by lowering peak temperature and lowering the oxygen concentration slightly. Although exhaust gas recirculation has been applied to internal combustion engines, the available data shows a reduction of fuel efficiency and only marginal NO_x reduction. At this time, no manufacturers are offering exhaust gas recirculation on gas-fired engines.

Firing biogas fuel can be considered a part of a NO_x emissions reduction control strategy. Biogas has large amounts of CO₂, causing peak engine temperatures to

be reduced, and thereby minimizing NO_x formation. This is a viable method to reducing NO_x from the generators.

Lean burn combustion engines are designed to be operated at high excess air levels resulting in lower combustion temperatures and therefore lower NO_x emissions. Lean burn combustion simultaneously minimizes emissions of NO_x along with PM, CO, and VOC. Lean burn technology for digester gas-fired internal combustion engines is widely utilized. As such, LAWPCA utilizes lean burn technology generators.

Ignition timing retard delays the ignition timing to minimize peak combustion temperature. NO_x formation can be greatly reduced, but CO and PM emissions potentially increase, along with a decrease in engine performance and operational stability. Most engine manufacturers use ignition timing retard to some degree, including the engines utilized by LAWPCA.

Proper operation and good combustion and maintenance practices minimize emissions for all pollutants including NO_x. LAWPCA shall maintain the anaerobic digesters and the generators in accordance with the manufacturers' written instruction for proper operation and maintenance.

The use of biogas fuel, lean burn combustion technology, ignition timing retard tuning, proper operation, and good combustion and maintenance practices are BACT for the engine to minimize NO_x emissions, with the NO_x emission limit for the generators based on data provided by the engine manufacturer.

The BACT emission limit for NO_x from the engine is the following:

NO_x lb/hr Emission Limits

	Biogas	Natural Gas
NO _x	0.93	1.36

CO – The options for controlling carbon monoxide from engines include good combustion control and an add-on oxidation catalyst. Add on-controls were not considered economically feasible. The inherent combustion efficiencies of a new lean burn unit and good operating practices are considered BACT, with the CO emission limit for the engine based on data provided by the engine manufacturer.

The BACT emission limit for CO from the engine is the following:

CO lb/hr Emission Limits

	Biogas	Natural Gas
CO	1.88	2.72

VOC – Control options for volatile organic compound emissions from engines include good combustion control and an add-on oxidation catalyst. Add on-controls were not considered economically feasible. The inherent combustion efficiencies of a new lean burn unit and good operating practices are considered BACT, with the VOC emission limit for the generators based on emission factors obtained from the San Diego Air Pollution Control District (77.76 lb/MMft³ for biogas and 120.36 lb/MMft³ for natural gas).

The BACT emission limit for VOC from the engine is the following:

VOC lb/hr Emission Limits

	Biogas	Natural Gas
VOC	0.32	0.26

Opacity – Visible emissions from each Cogeneration Unit stack shall not exceed 10% opacity on a 6-minute block average.

Greenhouse Gases – Current and developing EPA and US Department of Energy guidance includes the use of biogas or biomass as alternative fuels to be considered for facilities with power generation and combustion. Overall methane emissions from LAWPCA are reduced by the operation of the digester and the firing of biogas in the cogeneration engine. The operation of the anaerobic digester system and cogeneration can be considered part of LAWPCA’s greenhouse gas emissions control strategy.

Periodic Monitoring

LAWPCA shall continue to maintain records of the hours of operation of each Cogeneration Unit on a monthly and calendar year total basis: Cogeneration Unit #1 and #2.

Performance monitoring for the gas cleaning system comprised of iron sponge media or comparable biogas treatment system shall be a monthly grab sample of biogas at the outlet of the gas cleaning system for H₂S using a Draeger Tube or other method approved by the Department to monitor the performance of the gas cleaning system.

The gas cleaning system is located after the digesters and prior to the inlet to the Cogeneration Units. The media utilized in the gas cleaning system shall be replaced within 30 days after test results show breakthrough of H₂S (5 ppm), or greater. Records shall be maintained of each grab sample result and dates of when the media is replaced, regenerated, or the system is repaired or overhauled.

2. 40 C.F.R. Part 60, Subpart JJJJ Requirements

The federal regulation 40 C.F.R. Part 60, Subpart JJJJ, *Standards of Performance for Spark Ignition Internal Combustion Engines (SI ICE)* is applicable to the engine since the unit was ordered after June 12, 2006 and manufactured after January 1, 2009. LAWPCA shall meet the applicable 40 C.F.R. Part 60, Subpart JJJJ requirements which are summarized, in part, below.

a. Emission Standards

The engine shall meet the emission standards contained in 40 C.F.R. Part 60, Subpart JJJJ, Table 1 per § 60.4231(e) and § 60.4233(e), as follows:

Engine Type and Fuel	Maximum Engine Power	Manufacture Date	Emission Standards*					
			g/hp-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC**	NO _x	CO	VOC**
Non-emergency SI Natural Gas	100≤hp<500	1/1/2011	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas	hp<500	1/1/2011	2.0	5.0	1.0	150	610	80

* Owners and operators of stationary non-certified engines may choose to comply with the emission standards in units of either g/hp-hr or ppmvd at 15% O₂.

** When calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

b. Certification Requirement

The engine shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1 or by an initial performance test if a manufacturer certification is unavailable per § 60.4243(b).

c. Operation and Maintenance Requirement

If the engine is certified through an initial performance test, the facility must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions per § 60.4243(b).

d. Recordkeeping

Per § 60.4245, LAWPCA shall keep records that include all notifications submitted to comply with 40 C.F.R. Part 60, Subpart JJJJ and all documentation supporting any notification; maintenance conducted on the engine; and documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 C.F.R. Parts 90, 1048, 1054, and 1060, as applicable, if the engine is a certified engine and if the engine is not certified, documentation that the engine meets the emission standards. If the engine is subject to the initial performance test, a copy of the performance test as conducted per § 60.4244 shall be submitted within 60 days after the test has been completed.

D. Boilers

The two boilers are each 2.2 MMBtu/hr and fire biogas produced from the anaerobic digesters with natural gas as back-up fuel. The biogas is primarily used in the cogeneration units; the boilers are operated in instances where additional biogas is available and the digester temperature is too low, usually if one or both of the cogeneration units are down. If not combusted in the cogeneration units or boilers, the biogas is placed in storage or combusted in the flare. The boilers have been sized to meet the heating demands of the digesters.

The boilers are of a modern design which optimizes fuel use efficiency and minimizes emissions through combustion optimization. Low NO_x burners are available at a greater cost, as are possible other controls, however these are not considered justifiable due to the small size and minimal emissions from the boilers. Gas combustion inherently has low SO₂ and PM emissions. BPT is the use of new high efficiency biogas-fired boilers with natural gas firing capabilities.

a. BPT Findings

The BPT emission limits for each of the boilers were based on the following emission factors provided by the San Diego Air Pollution Control District (www.sdapcd.org/content/sdc/apcd/en/engineering/Permits/Engineering_Emissions_Inventory/Combustion_Calc/Combustion_Gas.html)

Biogas

(http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/EFT/Gas_Combustion/APCD_Boiler_Digester_Gas_Fired_Uncontrolled.pdf)

PM/PM ₁₀	–	4.47 lb/MMft ³
SO ₂	–	2.0 lb/MMft ³
NO _x	–	58.82 lb/MMft ³
CO	–	49.41 lb/MMft ³
VOC	–	3.24 lb/MMft ³

The BPT emission limit for each of the boilers while firing biogas are:

<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>
Boiler 1 Biogas	0.02	0.02	0.01	0.24	0.20	0.01
Boiler 2 Biogas	0.02	0.02	0.01	0.24	0.20	0.01

Natural Gas

- PM/PM₁₀ – 7.6 lb/MMft³
- SO₂ – 0.6 lb/MMft³
- NO_x – 100.0 lb/MMft³
- CO – 84.0 lb/MMft³
- VOC – 5.50 lb/MMft³

The BPT emission limits for each of the boilers while firing natural gas are the following:

<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>
Boiler 1 Natural gas	0.02	0.02	0.0013	0.22	0.18	0.01
Boiler 2 Natural gas	0.02	0.02	0.0013	0.22	0.18	0.01

Visible emissions from the common boiler stack shall not exceed 10% opacity on a six-minute block average basis.

- b. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

Due to the size, the boilers are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

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

Boilers 1 and 2 are not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJ because they are gas-fired units and these units are exempt for these requirements. [40 C.F.R. § 63.11193 and § 63.11195]

E. Digester Flare

The digester flare is rated at 5.5 MMBtu/hr and is utilized when biogas cannot be combusted in the engine/generator sets and/or boilers due to equipment downtime, malfunction, or other scenarios in which the biogas would otherwise be vented. By flaring the biogas, the resulting emissions are safer better controlled than if the biogas were vented uncontrolled. The flare is located prior to the H₂S removal and gas cleaning equipment.

BPT is the use of the flare for control of digester gases when the gases are not able to be fired in the cogeneration units and/or boilers.

The BPT emission limits for PM/PM₁₀, NO_x, CO and VOC for the flare were based on the following emission factors provided by the San Diego Air Pollution Control District and by the vendor. SO₂ emission factors were based on data provided by the gas cleaning system vendor and recalculated as part of this renewal. The flare is prior to the gas cleaning system thus

(www.sdapcd.org/content/sdc/apcd/en/engineering/Permits/Engineering_Emissions_Inventory/Combustion_Calc/Combustion_Gas.html)

Biogas

- PM/PM₁₀ – 12.0 lb/MMft³
- *SO₂ – 25.32 lb/MMft³
- NO_x – 48.0 lb/MMft³
- CO – 1.8 lb/MMft³
- VOC – 12.10b/MMft³

*Based on gas cleaning system vendor information

Emissions from the flare shall not exceed the following:

Pollutant	lb/MMBtu	Origin and Authority
PM	0.02	A-1054-71-A-N (6/1/2011), BPT

The emissions from the flare shall not exceed the following:

[A-1045-71-A-N (6/1/2011), 06-096 C.M.R 115, BPT]

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	*SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Flare Biogas	0.12	0.12	0.24	0.48	0.02	0.12

* Based on gas cleaning system vendor information

Opacity – Visible emissions from the flare shall not exceed 10% opacity on a minute block average basis. [069-096 C.M.R. ch. 115]

Periodic Monitoring

LAWPCA shall record total gas flow (cfm) to the flare and total run hours of the flare on a monthly basis.

F. Emergency Generator

The existing Emergency Generator at LAWPCA is a 600 kW stationary unit rated at 6.3 MMBtu/hr (44.9 gal/hr) and fires distillate fuel with a maximum sulfur content of 0.0015%. The Emergency Generator was manufactured in 1995 and installed in 1996. The emissions from the unit exhaust through a 24 foot stack.

1. BPT Findings

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

- PM/PM₁₀ - 0.12 lb/MMBtu from 06-096 C.M.R. ch. 103
- SO₂ - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x - 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
- Opacity - 06-096 C.M.R. 115, BPT

The BPT emission limits for the Emergency Generator are the following:

[A-1045-71-C-A (2/20/2014)]

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator (6.3 MMBtu/hr) Distillate	0.75	0.75	0.009	20.12	5.34	0.57

Visible emissions from the Emergency Generator shall not exceed 20% opacity on a six-minute block average basis. [069-096 C.M.R. ch. 115, BPT]

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ is applicable to the emergency engine listed above. The unit is considered an existing, emergency stationary reciprocating internal combustion engine at an area HAP source and is 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 this unit from the federal requirements.

[40 C.F.R. § 63.6585]

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 63, Subpart ZZZZ, a stationary reciprocating internal combustion engine (RICE) is considered an **emergency** stationary RICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 63, Subpart ZZZZ, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster or equipment failure;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE more than 100 hours per calendar year.

- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

The Emergency Generator shall be limited to the usage outlined in 40 C.F.R. § 63.6640(f) and therefore may be classified as an existing emergency stationary RICE as defined in 40 C.F.R. Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in 40 C.F.R. § 63.6640(f) may cause this engine to not be considered an emergency engine and therefore subject to all applicable requirements for non-emergency engines.

b. 40 C.F.R. Part 63, Subpart ZZZZ Requirements

(1) Operation and Maintenance Requirements
(40 C.F.R. § 63.6603(a) and Table 2(d))

	<u>Operating Limitations</u>
Emergency Generator (Compression ignition firing distillate fuel)	<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 Emergency Generator shall be operated and maintained according to the manufacturer's emission-related written instructions, or LAWPCA shall develop a maintenance plan which must provide 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 C.F.R. § 63.6625(e)]

(2) Optional Oil Analysis Program

LAWPCA 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, LAWPCA must keep records of the parameters that are analyzed as part of the program, the results of the analysis,

and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 C.F.R. § 63.6625(i)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 63.6625(f)]

(4) Startup Idle and Startup Time Minimization Requirements

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

(5) Annual Time Limit for Maintenance and Testing

As an emergency engine, the unit shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). [40 C.F.R. § 63.6640(f)]

(6) Recordkeeping

LAWPCA shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [40 C.F.R. § 63.6655(f)]

G. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than five minutes in any one hour period during which time visible emissions shall not exceed 30% opacity. Compliance shall be determined by an aggregate of the individual fifteen-second opacity observations which exceed 20% in any one hour.

H. General Process Emissions

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

I. Annual Emissions

LAWPCA's annual emissions will not be changing with the installation of the rebuilt engine in Cogeneration Unit #2.

1. LAWPCA shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on the cogeneration units and boilers operating 8760 hrs/year, and the Emergency Generator operating at 100 hrs/year.

Total Licensed Annual Emissions for the Facility*

Tons/year

(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Cogeneration Units	0.98	0.98	--	11.91	23.83	2.76
Boilers	0.16	0.16	--	2.06	1.73	0.11
Emergency Generator	0.04	0.04	0.0005	1.0	0.3	0.03
Flare	--	--	1.03	--	--	--
Total TPY	1.2	1.2	1.1	15.0	25.9	2.9

*Note: Tons per year calculations were based on a worst-case scenario, as follows:

- the cogeneration units and boilers firing 8760 hrs/yr,
- Except for SO₂, total annual emissions from the flare are not included since it is operated when the generators and boilers are not functioning; the flare has the same or lower emissions than the other units for pollutants other than SO₂,
- the cogeneration units' PM, SO₂, and VOC emissions were based on biogas firing and NO_x and CO were based on natural gas firing,
- the boilers' PM, SO₂, NO_x, CO, and VOC emissions were all based on firing biogas, and
- the Emergency Generator emissions were based on operating 100 hrs/year.

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 (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;
- 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 shall be 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 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 Amendment A-1054-71-F-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision of this License Amendment or part thereof shall not affect the remainder of the provision or any other provisions. This License Amendment 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) Cogeneration Units

- A. Cogeneration Unit #1 and #2 (2.23 MMBtu/hr each), spark ignition engine generator sets, shall fire biogas or natural gas. [A-1045-71-A-N (6/1/2011)]
- B. LAWPCA may replace the engine in Cogeneration Unit #1 and/or Cogeneration #2 with a like kind engine of the same size, model, and manufacturer or rebuild the engine with like kind parts. [06-096 C.M.R. ch. 115, BACT]
- C. LAWPCA shall notify the Department in writing in advance of an engine rebuild or replacement. [06-096 C.M.R. ch. 115, BACT]
- D. Emissions from each of the spark ignition engine generator sets shall not exceed the following [A-1045-71-A-N (6/1/2011), BPT]:

Fuel	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Biogas	0.11	0.11	0.02	0.93	1.88	0.32
Nat'l Gas	0.02	0.02	0.002	1.36	2.72	0.26

- E. Visible emissions from each spark ignition engine generator set stack shall not exceed 10% opacity on a six (6) minute block average basis. [06-096 C.M.R. ch. 115, BACT]
- F. Each spark ignition engine generator set stack shall be a minimum of 17 feet in height. [A-1054-71-B-M (5/20/2013)]
- G. Monitoring
 - 1. LAWPCA shall keep records of the hours of operation of each of the cogeneration units on a monthly and calendar year total basis. [06-096 C.M.R. ch. 115, BACT]
 - 2. LAWPCA shall test a grab sample of biogas at the outlet of the gas cleaning system every month to monitor the performance of the gas cleaning system, using a Draeger Tube or other method approved by the Department. The media shall be replaced or regenerated or the gas cleaning system shall be replaced or overhauled within 30 days after test results show breakthrough of H₂S (5 ppm), or greater. Records shall be maintained of the grab sample results and dates of when the changes to the gas cleaning system are made that will impact its performance (such as replacement of media).
[06-096 C.M.R. ch. 115, BACT]

H. 40 C.F.R. Part 60, Subpart JJJJ

LAWPCA shall meet all applicable requirements of 40 C.F.R. Part 60, Subpart JJJJ for the cogeneration units, including:

1. Emission Limits

The engines shall meet the emission standards contained in 40 C.F.R. Part 60, Subpart JJJJ, Table 1 as follows [40 C.F.R. Part 60, Subpart JJJJ, § 60.4231(e) and § 60.4233(e)]:

Engine Type and Fuel	Maximum Engine Power	Manufacture Date	Emission Standards*					
			g/hp-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC**	NO _x	CO	VOC**
Non-emergency SI Natural Gas	100≤hp<500	1/1/2011	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas	hp<500	1/1/2011	2.0	5.0	1.0	150	610	80

* Owners and operators of stationary non-certified engines may choose to comply with the emission standards in units of either g/hp-hr or ppmvd at 15% O₂.

** When calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

2. Certification Requirement

a. The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1 or by an initial performance test if a manufacturer certification is unavailable. [40 C.F.R. Part 60, Subpart JJJJ, § 60.4243(b)]

b. Replacement or rebuilding of the engine may require retesting. [40 C.F.R. Part 60, Subpart JJJJ, § 60.4243(f)]

c. If initial performance testing is required, it shall occur within 60 days after achieving the maximum production rate at which the engine will be operated at, but no later than 180 days after the initial startup of the engine. [40 C.F.R. Part 60 § 60.8]

3. Operation and Maintenance Requirement

If the engines are certified through an initial performance test, the facility must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 C.F.R. Part 60, Subpart JJJJ, § 60.4243(b)]

4. Recordkeeping

LAWPCA shall keep records that include all notifications submitted to comply with 40 C.F.R. Part 60, Subpart JJJJ and all documentation supporting any notification; maintenance conducted on the engine; and documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 C.F.R. Parts 90, 1048, 1054, and 1060, as applicable, if the engine is a certified engine and if the engine is not certified, documentation that the engine meets the emission standards. If the engine is subject to the initial performance test, a copy of the performance test as conducted per § 60.4244 shall be submitted within 60 days after the test has been completed. [40 C.F.R. Part 60, Subpart JJJJ, § 60.4245]

(17) **Boilers**

A. The boilers (2.2 MMBtu/hr each) shall fire biogas or natural gas.
[A-1054-71-A-N (6/1/2011), BPT]

B. Emissions from each of the boilers shall not exceed the following:
[A-1054-71-A-N (6/1/2011), BPT]

Fuel	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Biogas	0.02	0.02	0.01	0.24	0.20	0.01
Nat'l Gas	0.02	0.02	0.001	0.22	0.18	0.01

C. Visible emissions from the common boiler stack shall not exceed an opacity of 10% on a 6-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

(18) **Flare**

A. The flare (5.5 MMBtu/hr) shall fire biogas and shall be operated as a back-up when the digesters are in operation and the spark ignition engine generator sets and/or the boilers are unable to fire the biogas or when the gas production exceeds what can be combusted by the engines and/or the boilers. [06-096 C.M.R. ch. 115, BPT]

B. Emissions from the flare shall not exceed the following:

Pollutant	lb/MMBtu	Origin and Authority
PM	0.02	A-1054-71-A-N (6/1/2011), BACT

- C. Emissions from the flare shall not exceed the following:
[A-1054-71-A-N (6/1/2011), BACT, 06-096 C.M.R. ch. 115, BPT]:

PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
0.12	0.12	0.24	0.48	0.02	0.12

- D. Visible emissions from the flare shall not exceed an opacity of 10% on a 6 minute block average basis. [06-096 C.M.R. ch. 115, BPT]
- E. LAWPCA shall record total gas flow (cfm) to the flare and total run hours of the flare on a monthly basis.
[06-096 C.M.R. ch. 115, BPT]

(19) **Emergency Generator**

- A. The Emergency Generator shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations.
[A-1054-71-C-A (2/2/2014), BPT]
- B. The sulfur content of the distillate fuel purchased for the Emergency Generator 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.
[A-1054-71-C-A (2/2/2014), BPT]
- C. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Emergency Generator	PM	0.12	06-096 C.M.R. ch. 103(2)(B)(1)(a) & A-1054-71-C-A (2/2/2014)

- D. Emissions shall not exceed the following
[A-1054-71-C-A (2/20/2014), 06-096 C.M.R. 115, BPT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator (6.3 MMBtu/hr) Distillate fuel	0.75	0.75	0.009	20.12	5.34	0.57

E. Visible Emissions

Visible emissions from the Emergency Generator shall not exceed 20% opacity on a 6-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

F. The Emergency Generator shall meet the applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ, including the following:

1. LAWPCA shall meet the following operational limitations for the 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 C.F.R. § 63.6603(a) and Table 2(d) and 06-096 C.M.R. ch. 115]

2. Oil Analysis Program Option

LAWPCA 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, LAWPCA 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 C.F.R. § 63.6625(i)]

3. Non-Resettable Hour Meter

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

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

- a. As an emergency engine, the unit shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise to supply power as part of a financial arrangement with another entity). These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written logs) of all engine operating hours. [40 C.F.R. § 63.6640(f) and 06-096 C.M.R. ch. 115]

b. LAWPCA shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [40 C.F.R. § 63.6655(e) and (f)]

5. Operation and Maintenance

The engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or LAWPCA 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 C.F.R. § 63.6625(e)]

6. Startup Idle and Startup Time Minimization

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

(20) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than five minutes in any one hour period during which time visible emissions shall not exceed 30% opacity. Compliance shall be determined by an aggregate of the individual fifteen-second opacity observations which exceed 20% in any one hour. [06-096 C.M.R. ch. 115, BPT]

(21) **General Process Sources**

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

- (22) 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 13 DAY OF October, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, COMMISSIONER

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

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 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: February 22, 2016

Date of application acceptance: February 23, 2016

Date filed with the Board of Environmental Protection:

This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

