



DEPARTMENT ORDER

**Sugarloaf Mountain Corporation
Franklin County
Carrabassett Valley, Maine
A-845-71-E-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/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

Sugarloaf Mountain Corporation (Sugarloaf) has applied to renew its Air Emission License for the operation of emission sources associated with its commercial skiing operation and ski lodge. Sugarloaf has also requested an amendment to its license in order to include an additional generator, King Pine Engine #1.

The equipment addressed in this license is located at the Sugarloaf Mountain ski area, 5092 Access Rd, Carrabassett Valley, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Input Capacity (MMBtu/hr)	Max. Firing Rate (gal/hr)	Fuel Type, % sulfur	Date of Manuf.	Date of Install.
Baselodge #1	2.47	17.6	Distillate fuel, 0.5% sulfur by weight	1984	1984
Baselodge #2 ¹	2.31	16.5	Distillate fuel, 0.5% sulfur by weight	2013	2013

¹ This boiler was previously denoted "Buderus Boiler"

Generators

Equipment	Input Capacity (MMBtu/hr)	Output Capacity (HP)	Fuel Type, % sulfur	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Baselodge Generator	0.61	80	Propane, Negligible Sulfur	6.5	1999	1999
Super Quad Engine #1	6.31	900	Distillate Fuel, 0.0015% sulfur by weight	45	1994	1994
Super Quad Engine #2	1.24	177	Distillate Fuel, 0.0015% sulfur by weight	8.8	1994	1994
Whiffle Tree Engine #1	1.68	240	Distillate Fuel, 0.0015% sulfur by weight	12	1997	1997
Skyline APU Engine #1	2.81	400	Distillate Fuel, 0.0015% sulfur by weight	20	2011	2011
Skyline APU Engine #2	1.68	240	Distillate Fuel, 0.0015% sulfur by weight	12	1996	2013
King Pine Engine #1	0.70	99	Distillate Fuel, 0.0015% sulfur by weight	5	2014	2015

C. Definitions

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

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

D. Application Classification

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

The application for Sugarloaf includes the installation of new equipment. Therefore, the license is considered to be a renewal of currently licensed emission units and an amendment and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115.

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. 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 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, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change ² (TPY)	Significant Emission Levels
PM	1.8	1.9	+ 0.1	100
PM ₁₀	1.8	1.9	+ 0.1	100
SO ₂	10.6	10.5	- 0.1	100
NO _x	7.2	5.9	- 1.3	100
CO	3.6	1.5	- 2.1	100
VOC	0.4	0.2	- 0.2	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 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.

² Emission reductions are the result of a calculation error for emissions from Baseload Generator in Air Emission License A-845-71-D-A, dated 01/29/2015.

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. Boilers

Sugarloaf operates two boilers for heat and hot water in the base lodge, Baselodge #1 and Baselodge #2. The boilers are rated at 2.47 MMBtu/hr and 2.31 MMBtu/hr, respectively, firing distillate fuel, and they each exhaust through their own stacks. Baselodge #1 and Baselodge #2 were installed in 1984 and 2013, respectively.

1. BPT Findings

The BPT emission limits for the boilers are based on the following:

Distillate Fuel

PM	0.08 lb/MMBtu 06-096 C.M.R. ch. 115, BPT
PM ₁₀	0.08 lb/MMBtu 06-096 C.M.R. ch. 115, BPT
SO ₂	0.5 lb/MMBtu based on the firing of distillate fuel with a sulfur content of 0.5% by weight
NO _x	20 lb/1000 gal AP-42 table 3.3-1, dated 05/10
CO	5 lb/1000 gal AP-42 table 3.3-1, dated 05/10
VOC	0.34 lb/1000 gal AP-42 table 3.3-3, dated 05/10
Visible Emissions	06-096 C.M.R. ch. 115, BPT

The BPT emission limits for the boilers are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Baselodge #1 distillate fuel	0.20	0.20	1.24	0.35	0.09	0.01
Baselodge #2 distillate fuel	0.18	0.18	1.16	0.33	0.08	0.01

Visible emissions from each boiler shall not exceed 20% opacity on a six-minute block average basis.

Fuel Sulfur Content Requirements

The Boilers are licensed to fire distillate fuel which, by definition, has a sulfur content of 0.5% or less by weight. Per 38 M.R.S. § 603-A(2)(A)(3), as of July 1, 2018, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm). Therefore, beginning July 1, 2018, the distillate fuel purchased or otherwise obtained for use in the boilers shall not exceed 0.0015% by weight (15 ppm).

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

Due to the size of the boilers, neither is 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]

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

The boilers are 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. The units are oil boilers rated below 10 MMBtu/hr; Baselodge #1 is considered existing and Baselodge #2 is considered new. [40 C.F.R. §§ 63.11193 and 63.11195]

A summary of the currently applicable federal 40 C.F.R. Part 63, Subpart JJJJJ requirements is listed below. At this time, the Department has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA; however, Sugarloaf is still subject to the requirements. Notification forms and additional rule information can be found on the following website: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

(1) Boiler Tune-Up Program

- (i) A boiler tune-up program shall be implemented. [40 C.F.R. § 63.11223]
- (ii) Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. Because the boilers are both oil fired and rated below 5 MMBtu/hr, they are required to be tuned-up every five years. [40 C.F.R. § 63.11223(a) and Table 2]

(iii) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 C.F.R. § 63.11223(b)(1)]
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 C.F.R. § 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 C.F.R. § 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [40 C.F.R. § 63.11223(b)(5)]
6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 C.F.R. § 63.11223(b)(7)]

(iv) Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

1. The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before and after** the boiler tune-up;
2. A description of any corrective actions taken as part of the tune-up of the boiler; and
3. The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [40 C.F.R. § 63.11223(b)(6)]

(2) Compliance Report

A compliance report shall be prepared by March 1st every five years which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and/or to the EPA upon request. The report must include the items contained in §§ 63.11225(b)(1) and (2), including the following: [40 C.F.R. § 63.11225(b)]

- (i) Company name and address;
- (ii) A statement of whether the source has complied with all the relevant requirements of this Subpart;
- (iii) A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature;
- (iv) The following certifications, as applicable:
 1. "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
 2. "No secondary materials that are solid waste were combusted in any affected unit."
 3. "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJ including the following [40 C.F.R. § 63.11225(c)]:

- (1) Copies of notifications and reports with supporting compliance documentation;
- (2) Identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
- (3) Records of the occurrence and duration of each malfunction of each applicable boiler; and
- (4) Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review. EPA requires submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [40 C.F.R. § 63.11225(a)(4)(vi)]

C. Generators

Sugarloaf operates seven emergency generators rated above minimum licensing thresholds. Six of the generators were included in the previous license, and Sugarloaf has requested the addition of King Pine Engine #1 (0.7 MMBtu/hr, 99HP).

The emergency generators are generator sets with each gen set consisting of an engine and an electrical generator. The emergency generators have a total output capacity of 2136 HP, all firing distillate fuel except Baselodge Generator which fires propane. The emergency generators were all manufactured between 1994 and 2014.

Baselodge Generator is used to provide emergency backup power for the base lodge; the rest of the engines provide emergency backup power to the ski lifts and are directly attached to their respective lifts.

1. BPT Findings

The BPT emission limits for the previously licensed generators are based on the following:

Propane (Baselodge Generator):

PM	0.05 lb/MMBtu from AP-42 Table 3.2-3, dated 07/00
PM ₁₀	0.05 lb/MMBtu from AP-42 Table 3.2-3, dated 07/00
SO ₂	0.000588 lb/MMBtu from AP-42 Table 3.2-3, dated 07/00
NO _x	2.27 lb/MMBtu from AP-42 Table 3.2-3, dated 07/00
CO	3.51 lb/MMBtu from AP-42 Table 3.2-3, dated 07/00
VOC	0.03 lb/MMBtu from AP-42 Table 3.2-3, dated 07/00
Visible Emissions	06-096 C.M.R. ch. 115, BPT

Distillate Fuel:

	Super Quad Engine #1	All Other Existing Boilers ³
PM	0.12 lb/MMBtu 06-096 C.M.R. ch. 103	0.31 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
PM ₁₀	0.12 lb/MMBtu 06-096 C.M.R. ch. 103	0.31 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
SO ₂	0.0015 lb/MMBtu Based on the firing of distillate fuel with a sulfur content of 0.0015% by weight	
NO _x	3.2 lb/MMBtu AP-42 Table 3.4-1, dated 10/96	4.41 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
CO	0.85 lb/MMBtu AP-42 Table 3.4-1, dated 10/96	0.95 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
VOC	0.09 lb/MMBtu AP-42 Table 3.4-1, dated 10/96	0.36 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
Visible Emissions	06-096 C.M.R. ch. 115, BPT	

The BPT emission limits for the generators are the following:

Unit	Pollutant	lb/MMBtu
Super Quad Engine #1	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)
Baselodge Generator Propane	0.03	0.03	Negligible	1.38	2.14	0.02
Super Quad Engine #1 Distillate fuel	0.76	0.76	0.01	20.19	5.36	0.57
Super Quad Engine #2 Distillate fuel	0.38	0.38	Negligible	5.47	1.18	0.45
Whiffle Tree Engine #1 Distillate fuel	0.52	0.52	Negligible	7.41	1.60	0.60
Skyline APU Engine #1 Distillate fuel	0.87	0.87	Negligible	12.39	2.67	1.01
Skyline APU Engine #2 Distillate fuel	0.52	0.52	Negligible	7.41	1.60	0.60

³ Superquad Engine #2, Whiffle Tree Engine #1, Skyline APU Engine #1, and Skyline APU Engine #2

2. BACT Findings

The BACT emission limits for King Pine Engine #1 are based on the following:

PM	0.31 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
PM ₁₀	0.31 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
SO ₂	0.0015 lb/MMBtu Based on the firing of distillate fuel with a sulfur content of 0.0015% by weight
NO _x	4.41 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
CO	0.95 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
VOC	0.36 lb/MMBtu AP-42 Table 3.3-1, dated 10/96
Visible Emissions	06-096 C.M.R. ch. 115, BACT

The BACT emission limits for King Pine Engine #1 are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
King Pine Engine #1 Distillate fuel	0.22	0.22	Negligible	3.09	0.67	0.25

3. Visible Emissions

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

Visible emissions from Baseload Generator shall not exceed 10% opacity on a six-minute block average basis.

4. Operation Standards

Each of the emergency generators shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. There is no limit on emergency operation. Each emergency generator shall be equipped with a non-resettable hour-meter to record operating time. To demonstrate compliance with the operating hours limit, Facility shall keep records of the total hours of operation and the hours of emergency operation for each unit.

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

These requirements are applicable to Skyline APU Engine #1 and King Pine Engine #1 via 40 C.F.R Part 60, Subpart III. For the rest of the engines, these requirements are applicable via 06-096 C.M.R. ch. 115, BPT.

5. New Source Performance Standards (NSPS)

40 C.F.R. Part 60, Subpart III (distillate fuel fired engines)

Due to the dates of manufacture of Super Quad Engine #1, Super Quad Engine #2, Whiffle Tree Engine #1, and Skyline APU Engine #2, the engines are not subject to the New Source Performance Standards (NSPS) *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, 40 C.F.R. Part 60, Subpart III since the units were manufactured prior to April 1, 2006. [40 C.F.R. § 60.4200]

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart III is, however, applicable to Skyline APU Engine #1 and King Pine Engine #1 since the units were ordered after July 11, 2005, and manufactured after April 1, 2006. [40 C.F.R. § 60.4200]

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart III, a stationary reciprocating internal combustion engine (ICE) is considered an **emergency** stationary ICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 60, Subpart III, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

(1) Emergency Situation Operation (On-Site)

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

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

(2) Non-Emergency Situation Operation

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

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE more than 100 hours per calendar year.
- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

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.

b. 40 C.F.R. 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 C.F.R. § 60.4202. [40 C.F.R. § 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 C.F.R. § 60.4207(b)]

(3) **Non-Resetable Hour Meter Requirement**

A non-resettable hour meter shall be installed and operated on each engine.
[40 C.F.R. § 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 Sugarloaf that are approved by the engine manufacturer. Sugarloaf may only change those emission-related settings that are permitted by the manufacturer.
[40 C.F.R. § 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. 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. § 60.4211(f)]

(6) **Initial Notification Requirement**

No initial notification is required under 40 C.F.R. Part 60, Subpart IIII for emergency engines. [40 C.F.R. § 60.4214(b)]

(7) **Recordkeeping**

Sugarloaf 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 number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

40 C.F.R. Part 60, Subpart JJJJ (propane fired engine)

Due to the date of manufacture of the spark ignition emergency engine listed above, Baseldodge Generator, the engine is not subject to the New Source Performance Standards (NSPS) *Standards of Performance for Spark Ignition Internal Combustion Engines (SI ICE)*, 40 C.F.R. Part 60, Subpart JJJJ since the unit was manufactured prior January 1, 2009. [40 C.F.R. § 60.4230]

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

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ is not applicable to any of the emergency engines listed above. The units are considered new and existing, emergency stationary reciprocating internal combustion engines at an area HAP source. However, they are considered exempt from the requirements of 40 C.F.R. Part 63, Subpart ZZZZ since they are categorized as commercial emergency engines and they do not operate or are not contractually obligated to be available in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 63.6640(f)(4)(ii).

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

D. Annual Emissions

1. Total Annual Emissions

Sugarloaf shall be restricted to the following annual emissions, on a calendar year total basis. The tons per year limits were calculated based on 8,760 hours of operation of both boilers and 100 hours of operation of each emergency engine.

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Baselodge #1	0.87	0.87	5.41	1.54	0.39	0.03
Baselodge #2	0.81	0.81	5.06	1.45	0.36	0.02
Baselodge Generator	Negligible	Negligible	Negligible	0.07	0.11	Negligible
Super Quad Engine #1	0.04	0.04	Negligible	1.01	0.27	0.03
Super Quad Engine #2	0.02	0.02	Negligible	0.27	0.06	0.02
Whiffle Tree Engine #1	0.03	0.03	Negligible	0.37	0.08	0.03
Skyline APU Engine #1	0.04	0.04	Negligible	0.62	0.13	0.05
Skyline APU Engine #2	0.03	0.03	Negligible	0.37	0.08	0.03
King Pine Engine #1	0.01	0.01	Negligible	0.15	0.03	0.01
Total TPY	1.9	1.9	10.5	5.9	1.5	0.2

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 generator operation limits;
- worst case emission factors from the following sources: U.S. EPA’s AP-42, the Intergovernmental Panel on Climate Change (IPCC), and *Mandatory Greenhouse Gas Reporting*, 40 C.F.R. Part 98; and
- global warming potentials contained in 40 C.F.R. Part 98.

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

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

<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-845-71-E-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 C.M.R. ch. 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:

- A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 2. Pursuant to any other requirement of this license to perform stack testing.
 - B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. Submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 C.M.R. ch. 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. Within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and
 - B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
[06-096 C.M.R. ch. 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 C.M.R. ch. 115]

- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(16) **Boilers**

A. Fuel

1. Prior to July 1, 2018, the facility shall fire distillate fuel with a maximum sulfur content not to exceed 0.5% by weight. [06-096 C.M.R. ch. 115, BPT]
2. Beginning July 1, 2018, the facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BPT]

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Baselodge #1 distillate fuel	0.20	0.20	1.24	0.35	0.09	0.01
Baselodge #2 distillate fuel	0.18	0.18	1.16	0.33	0.08	0.01

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

D. Boiler MACT (40 C.F.R. Part 63, Subpart JJJJJ) Requirements for Baselodge #1 and Baselodge #2 [incorporated under 06-096 C.M.R. ch. 115, BPT]

1. The facility shall implement a boiler tune-up program. [40 C.F.R. § 63.11223]

a. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. Because the boilers are both oil fired and rated below 5 MMBtu/hr, they are required to be tuned-up every five years. [40 C.F.R. § 63.11223(a) and Table 2]

b. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

(1) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 C.F.R. § 63.11223(b)(1)]

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 C.F.R. § 63.11223(b)(2)]

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 C.F.R. § 63.11223(b)(3)]

(4) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.11223(b)(4)]

(5) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [40 C.F.R. § 63.11223(b)(5)]

(6) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 C.F.R. § 63.11223(b)(7)]

c. Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

(1) The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;

- (2) A description of any corrective actions taken as part of the tune-up of the boiler; and
- (3) The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [40 C.F.R. § 63.11223(b)(6)]

2. Compliance Report

A compliance report shall be prepared by March 1st every five years which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and/or to the EPA upon request. The report must include the items contained in §§ 63.11225(b)(1) and (2), including the following: [40 C.F.R. § 63.11225(b)]

- a. Company name and address;
 - b. A statement of whether the source has complied with all the relevant requirements of this Subpart;
 - c. A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature;
 - d. The following certifications, as applicable:
 - (1) "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
 - (2) "No secondary materials that are solid waste were combusted in any affected unit."
 - (3) "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."
- ## 3. Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJ including the following [40 C.F.R. § 63.11225(c)]:
- a. Copies of notifications and reports with supporting compliance documentation;
 - b. Identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
 - c. Records of the occurrence and duration of each malfunction of each applicable boiler; and
 - d. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review. EPA requires submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [40 C.F.R. § 63.11225(a)(4)(vi)]

(17) **Generators**

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 C.M.R. ch. 115, BPT and BACT]

B. Emissions shall not exceed the following [06-096 C.M.R. ch. 103, § (2)(B)(1)(a)]:

Unit	Pollutant	lb/MMBtu
Super Quad Engine #1	PM	0.12

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Baselodge Generator Propane	0.03	0.03	Negligible	1.38	2.14	0.02
Super Quad Engine #1 Distillate fuel	0.76	0.76	0.01	20.19	5.36	0.57
Super Quad Engine #2 Distillate fuel	0.38	0.38	Negligible	5.47	1.18	0.45
Whiffle Tree Engine #1 Distillate fuel	0.52	0.52	Negligible	7.41	1.60	0.60
Skyline APU Engine #1 Distillate fuel	0.87	0.87	Negligible	12.39	2.67	1.01
Skyline APU Engine #2 Distillate fuel	0.52	0.52	Negligible	7.41	1.60	0.60

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
King Pine Engine #1 Distillate fuel	0.22	0.22	Negligible	3.09	0.67	0.25

E. Visible Emissions

1. Visible emissions from each of the distillate fuel-fired emergency generators shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT and BACT]
2. Visible emissions from Baselodge Generator shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

F. Sugarloaf shall meet the following requirements for Baselodge Generator, Super Quad Engine #1, Super Quad Engine #2, Whiffle Tree Engine #1, and Skyline APU Engine #2:

1. Sugarloaf 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 number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [06-096 C.M.R. ch. 115, BPT]
2. The fuel sulfur content for the distillate fuel fired generators 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 C.M.R. ch. 115, BPT]
3. The emergency generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. The emergency generators are not to be used for prime power when reliable offsite power is available; nor to operate or to be contractually obligated to be available in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity. [06-096 C.M.R. ch. 115, BPT]

G. Sugarloaf shall meet all applicable requirements of 40 C.F.R. Part 60, Subpart IIII for Skyline APU Engine #1 and King Pine Engine #1, including the following:

1. **Manufacturer Certification**
The engine shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in § 60.4202. [40 C.F.R. § 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 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 115]

3. Non-Resettable Hour Meter

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

4. Annual Time Limit for Maintenance and Testing

a. As emergency engines, the units 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 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 log) of all engine operating hours. [40 C.F.R. § 60.4211(f) and 06-096 C.M.R. ch. 115]

b. Sugarloaf 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 number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

5. Operation and Maintenance

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

Sugarloaf Mountain Corporation
Franklin County
Carrabassett Valley, Maine
A-845-71-E-R/A (SM)

25

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

- (18) Sugarloaf 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 30 DAY OF May, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Core 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: 11/28/2016

Date of application acceptance: 11/30/2016

Date filed with the Board of Environmental Protection:

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

