



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**Sugarloaf Mountain Corporation
Franklin County
Carrabassett Valley, Maine
A-845-71-D-A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #1**

FINDINGS OF FACT

After review of the air emissions 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 Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Sugarloaf Mountain Corporation (Sugarloaf) was issued Air Emission License A-845-71-C-R on December 6, 2011 permitting the operation of emission sources associated with their commercial lodge and ski lift facility.

Sugarloaf has requested an amendment to their license in order to include a boiler and two emergency lift engines left out of the previous renewal and correct the emission factors used for previously licensed equipment.

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

<u>Equipment</u>	<u>Maximum Heat Input (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>
Base Lodge Boiler #1	2.47	17.6	distillate fuel, 0.5%	1984
Buderus Boiler*	2.31	16.5	distillate fuel, 0.5%	2013

*Denotes new equipment

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

Engines

<u>Equipment</u>	<u>Output</u>	<u>Maximum Heat Input (MMBtu/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>
Base Lodge Generator #1	60 kW	0.60	propane, negligible	1999	1999
SuperQuad Engine #1	900 Hp	6.31	distillate fuel, 0.0015%	1994	1994
SuperQuad Engine #2	177 Hp	1.24	distillate fuel, 0.0015%	1994	1994
Wiffle Tree Engine #1	240 Hp	1.68	distillate fuel, 0.0015%	1997	1997
Skyline APU Engine #1*	400 Hp	2.81	distillate fuel, 0.0015%	2011	2011
Skyline APU Engine #2*	240 Hp	1.68	distillate fuel, 0.0015%	1996	2013

*Denotes new equipment

C. Application Classification

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

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Emission Levels</u>
PM	1.7	1.8	+0.1	100
PM ₁₀	1.7	1.8	+0.1	100
SO ₂	1.2	10.6	+9.4	100
NO _x	16.8	7.2	-9.6	100
CO	4.7	3.6	-1.1	100
VOC	1.0	0.3	-0.7	50

This modification is determined to be a minor modification and has been processed as such. With the operating hours restriction on the emergency engines, 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.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment.

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

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers

Sugarloaf operates the Base Lodge Boiler #1 and the Buderus Boiler for facility heat and hot water needs. Base Lodge Boiler #1 is rated at 2.47 MMBtu/hr. The Buderus Boiler is rated at 2.31 MMBtu/hr. Both boilers fire distillate fuel.

1. 40 CFR Part 60, Subpart Dc

Due to their size, neither of the boilers are subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

2. BACT/BPT Findings

The BACT/BPT emission limits for the boilers were based on the following:

- PM/PM₁₀ – 0.08 lb/MMBtu based on 06-096 CMR 115, BACT/BPT
- SO₂ – based on firing ASTM D396 compliant #2 fuel oil (0.5% sulfur by weight)
- NO_x – 20 lb/1000 gal based on AP-42, Table 1.3-1, dated 5/10
- CO – 5 lb/1000 gal based on AP-42, Table 1.3-1, dated 5/10
- VOC – 0.34 lb/1000 gal based on AP-42, Table 1.3-3, dated 5/10
- Opacity – 06-096 CMR 101

The BACT/BPT emission limits for the boilers 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>
Base Lodge Boiler #1	0.20	0.20	1.24	0.35	0.09	0.01
Buderus Boiler	0.18	0.18	0.16	0.33	0.08	0.01

Visible emissions from each boiler shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period.

Prior to July 1, 2016 the distillate fuel fired in the boilers shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 06-096 CMR 106, beginning July 1, 2016 the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018 the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm).

3. 40 CFR Part 63 Subpart JJJJJ

Base Lodge Boiler #1 and the Buderus Boiler are subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ). These units are considered existing oil boilers rated less than 10 MMBtu/hr.

A summary of the currently applicable federal 40 CFR 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

i. Initial Notification of Compliance

An Initial Notification submittal to EPA was due no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

(a) A boiler tune-up program shall be implemented to include the initial tune-up of applicable boilers no later than March 21, 2014. [40 CFR Part 63.11223]

1. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

Boiler Category	Tune-Up Frequency
Existing Oil fired boilers with heat input capacities of <5MMBtu/hr	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

2. The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

(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; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 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 CFR Part 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; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 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 CFR Part 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 CFR Part 63.11223(b)(7)]

(c) After conducting the initial boiler tune-up, a Notification of Compliance Status was to be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; 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; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. 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. [63.1125(a)(4)(vi)]

C. Base Lodge Generator #1

Sugarloaf operates one propane-fired emergency generator (Base Lodge Generator #1). The Base Lodge Generator #1 is rated at 0.60 MMBtu/hr and was manufactured in 1999.

1. BPT Findings

The BPT emission limits for the Base Lodge Generator #1 are based on the following:

- PM/PM₁₀ - 0.05 lb/MMBtu from 06-096 CMR 115, BPT
- SO₂ - 0.000588 lb/MMBtu from AP-42, Table 3.2-3 dated 7/00
- NO_x - 2.27 lb/MMBtu from AP-42, Table 3.2-3 dated 7/00
- CO - 3.51 lb/MMBtu from AP-42, Table 3.2-3 dated 7/00
- VOC - 0.03 lb/MMBtu from AP-42, Table 3.2-3 dated 7/00
- Opacity - 06-096 CMR 115, BPT

The BPT emission limits for the Base Lodge Generator #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)
Base Lodge Generator #1	0.03	0.03	neg	1.36	2.11	0.02

Visible emissions from Base Lodge Generator #1 shall not exceed an opacity of 10% on a 6-minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

Base Lodge Generator #1 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. There is no limit on emergency operation. Base Lodge Generator #1 shall be equipped with a non-resettable hour-meter to record operating time. To demonstrate compliance with the operating hours limit, Sugarloaf shall keep records of the total hours of operation and the hours of emergency operation for Base Lodge Generator #1.

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 for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity.

2. 40 CFR Part 63, Subpart ZZZZ

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is not applicable to the Base Lodge Generator #1. This unit is considered an existing, emergency stationary reciprocating internal combustion engines at an area HAP source. However, it is considered exempt from the requirements of Subpart ZZZZ since it is categorized as a commercial emergency engine and it does not operate and is not contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii).

Operation of Base Lodge Generator #1 such that it exceeds 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), would cause the Base Lodge Generator #1 to be subject to 40 CFR Part 63, Subpart ZZZZ, and require compliance with all applicable requirements.

D. Back-up Ski Lift Engines

Sugarloaf operates five back-up ski lift engines above the significance threshold in 06-096 CMR 115. The back-up ski lift engines include SuperQuad Engine #1 (6.31 MMBtu/hr), SuperQuad Engine #2 (1.24 MMBtu/hr), Wiffle Tree Engine #1 (1.68 MMBtu/hr), Skyline APU Engine #1 (2.81 MMBtu/hr) and Skyline APU Engine #2 (1.68 MMBtu/hr). All of the back-up ski lift engines fire distillate fuel. All of the back-up ski lift engines were manufactured prior to 2006 with the exception of Skyline APU Engine #1 which was manufactured in 2011.

1. BACT/BPT Findings

The BPT emission limits for SuperQuad Engine #1 are based on the following:

PM/PM ₁₀	- 0.12 lb/MMBtu from 06-096 CMR 103
SO ₂	- 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 dated 10/96
CO	- 0.85 lb/MMBtu from AP-42 dated 10/96
VOC	- 0.09 lb/MMBtu from AP-42 dated 10/96
Opacity	- 06-096 CMR 101

The BPT emission limits for SuperQuad Engine #1 are the following:

Unit	Pollutant	lb/MMBtu
SuperQuad 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)
SuperQuad Engine #1	0.76	0.76	0.01	20.19	5.36	0.57

The BPT/BACT emission limits for the remaining back-up ski lift engines are based on the following:

- PM/PM₁₀ - 0.12 lb/MMBtu from 06-096 CMR 115
- SO₂ - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x - 4.41 lb/MMBtu from AP-42 dated 10/96
- CO - 0.95 lb/MMBtu from AP-42 dated 10/96
- VOC - 0.35 lb/MMBtu from AP-42 dated 10/96
- Opacity - 06-096 CMR 101

The BPT/BACT emission limits the remaining back-up ski lift engines 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)
SuperQuad Engine #2	0.15	0.15	neg	5.47	1.18	0.43
Wiffle Tree Engine #1	0.20	0.20	neg	7.41	1.60	0.59
Skyline APU Engine #1	0.34	0.34	neg	12.39	2.67	0.98
Skyline APU Engine #2	0.20	0.20	neg	7.41	1.60	0.59

Visible emissions from each of the back-up ski lift engines shall not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

Each of the back-up ski lift engines 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 back-up ski lift engine shall be equipped with a non-resettable hour-meter to record operating time. To demonstrate compliance with the operating hours limit, Sugarloaf shall keep records of the total hours of operation and the hours of emergency operation for each unit.

The back-up ski lift engines 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 back-up ski lift engines 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 for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity.

2. 40 CFR Part 63, Subpart ZZZZ

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is not applicable to the back-up ski lift engines listed above. The units are considered existing, emergency stationary reciprocating internal combustion engines at an area HAP source. However, they are considered exempt from the requirements of Subpart ZZZZ since they are categorized as commercial emergency engines and they do not operate or are not contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii).

Operation of the back-up ski lift engines such that each exceeds 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), would cause the generator(s) to be subject to 40 CFR Part 63, Subpart ZZZZ, and require compliance with all applicable requirements.

3. 40 CFR Part 60, Subpart IIII

The federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* is applicable to Skyline APU Engine #1 since it was were ordered after July 11, 2005 and manufactured after April 1, 2006.

a. Emergency Definition:

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

- (1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood,

etc. There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) Paragraph (1) above notwithstanding, the emergency stationary ICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:

- (i) Maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
- (ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
- (iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

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

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except if the following conditions are met:

- (i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

- (iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (iv) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR §60.4211(f) and §60.4219]

b. 40 CFR Part 60, Subpart IIII Requirements:

(1) Manufacturer Certification Requirement

Skyline APU Engine #1 shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in Skyline APU Engine #1 shall not exceed 15 ppm sulfur (0.0015% sulfur). [40 CFR §60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on Skyline APU Engine #1. [40 CFR §60.4209(a)]

(4) Operation and Maintenance Requirements

Skyline APU Engine #1 shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by facility that are approved by the engine manufacturer. Sugarloaf may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

(5) Annual Time Limit for Maintenance and Testing

Skyline APU Engine #1 shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). [40 CFR §60.4211(f)]

(6) Initial Notification Requirement

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

(7) Recordkeeping

Sugarloaf shall keep records that include maintenance conducted on the Skyline APU Engine #1 and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the Skyline APU Engine #1 is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), Sugarloaf shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §60.4214(b)]

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

If Sugarloaf operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109-3912

[40 CFR §60.4214(d)]

E. Annual Emissions

1. Total Annual Emissions

Sugarloaf shall be restricted to the following annual emissions, based on a 12 month rolling total (or calendar year). The tons per year limits were calculated based on the following:

- Operation of each boiler for 8760 hours/year
- Operation of each engine for 100 hours/year

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

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Base Lodge Boiler #1	0.9	0.9	5.5	1.6	0.4	0.1
Buderus Boiler	0.8	0.8	5.1	1.5	0.4	0.1
Base Lodge Generator #1	–	–	–	1.4	2.1	–
SuperQuad Engine #1	0.1	0.1	–	1.0	0.3	0.1
SuperQuad Engine #2	–	–	–	0.3	0.1	–
Wiffle Tree Engine #1	–	–	–	0.4	0.1	–
Skyline APU Engine #1	–	–	–	0.6	0.1	0.1
Skyline APU Engine #2	–	–	–	0.4	0.1	–
Total TPY	1.8	1.8	10.6	7.2	3.6	0.4

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through ‘Tailoring’ revisions made to EPA’s *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO₂e).

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

- the facility's maximum potential fuel use;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*; and
- global warming potentials contained in 40 CFR Part 98.

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

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source shall be determined by the Department on a case-by case basis. In accordance with 06-096 CMR 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 A-845-71-D-A subject to the conditions found in Air Emission License A-845-71-C-R and in the following conditions.

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

Conditions (16), (17), and (18) of Air Emission License A-845-71-C-R are DELETED.

The following are NEW Conditions:

(20) Base Lodge Boiler #1 and Buderus Boiler

A. Fuel Use

1. Prior to July 1, 2016, the distillate fuel fired in the boilers shall be ASTM D396 compliant #2 fuel oil (max. sulfur content of 0.5% by weight).
[06-096 CMR 115, BPT]
2. Beginning July 1, 2016, the boilers shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm).
[06-096 CMR 106, §3(A)(2)(a)]
3. Beginning January 1, 2018, the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm).
[06-096 CMR 106, §3(A)(2)(b)]
4. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered.
[06-096 CMR 115, BPT]

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

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Base Lodge Boiler #1	0.20	0.20	1.24	0.35	0.09	0.01
Buderus Boiler	0.18	0.18	1.16	0.33	0.08	0.01

- C. Visible emissions from each Boiler shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period. [06-096 CMR 101]
- D. Boiler MACT (40 CFR Part 63, Subpart JJJJJ) Requirements for the Base Lodge Boiler #1 and Buderus Boiler
[incorporated under 06-096 CMR 115, BPT]
 1. An Initial Notification submittal to EPA was due no later than January 20, 2014.
[40 CFR Part 63.11225(a)(2)]

2. The facility was to have implemented a boiler tune-up program to include the initial tune-up of applicable boilers no later than March 21, 2014.
[40 CFR Part 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. See chart below:

Boiler Category	Tune-Up Frequency
Existing Oil fired boilers with a heat input capacity of <5MMBtu/hr	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

- (b) The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]
3. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
- (a) 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; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(1)]
- (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
- (c) 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; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from

the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]

- (d) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
- (e) 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 CFR Part 63.11223(b)(5)]
- (f) 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 CFR Part 63.11223(b)(7)]

- 4. After conducting the initial boiler tune-up, a Notification of Compliance Status was to have been submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]
- 5. Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; 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; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

(21) Base Lodge Generator #1

- A. The Base Lodge Generator #1 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115, BPT]
- B. Sugarloaf shall keep records that include maintenance conducted on the Base Lodge Generator #1 and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. [06-096 CMR 115, BPT]
- C. If the Base Lodge Generator #1 is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity, Sugarloaf

shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes.
[06-096 CMR 115, BPT]

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

<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>
Base Lodge Generator #1	0.03	0.03	neg	1.36	2.11	0.02

E. Visible emissions from Base Lodge Generator #1 shall not exceed 10% opacity on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period. [06-096 CMR 115, BPT]

F. Base Lodge Generator #1 shall only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Base Lodge Generator #1 shall not to be used for prime power when reliable offsite power is available; nor to operate or to be contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity. [06-096 CMR 115, BPT]

(22) **Back-up Ski Lift Engines**

A. Each of the back-up ski lift engines shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations.
[06-096 CMR 115, BPT]

B. Sugarloaf shall keep records that include maintenance conducted on the back-up ski lift engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. [06-096 CMR 115, BPT]

C. If the back-up ski lift engines are operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity, Sugarloaf shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes.
[06-096 CMR 115, BPT]

D. The fuel sulfur content for the back-up ski lift engines shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel.
 [06-096 CMR 115, BPT]

E. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
SuperQuad Engine #1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
SuperQuad Engine #1	0.76	0.76	0.01	20.19	5.36	0.57
SuperQuad Engine #2	0.15	0.15	neg	5.47	1.18	0.43
Wiffle Tree Engine #1	0.20	0.20	neg	7.41	1.60	0.59
Skyline APU Engine #1	0.34	0.34	neg	12.39	2.67	0.98
Skyline APU Engine #2	0.20	0.20	neg	7.41	1.60	0.59

G. Visible emissions from each of the back-up ski lift engines shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period. [06-096 CMR 101]

H. The back-up ski lift engines shall only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. The back-up ski lift engines shall not to be used for prime power when reliable offsite power is available; nor to operate or to be contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity.[06-096 CMR 115, BPT]

I. Skyline APU Engine #1 shall meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:

1. Manufacturer Certification

Skyline APU Engine #1 shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in §60.4202. [40 CFR §60.4205(b)]

2. Ultra-Low Sulfur Fuel

The fuel fired in Skyline APU Engine #1 shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained)

prior to October 1, 2010, may be used until depleted. Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [40 CFR §60.4207(b) and 06-096 CMR 115, BPT]

3. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on Skyline APU Engine #1. [40 CFR §60.4209(a)]

4. Annual Time Limit for Maintenance and Testing

a. Skyline APU Engine #1 shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). These limits are based on a calendar year. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115, BACT]

b. Sugarloaf shall keep records that include maintenance conducted on Skyline APU Engine #1 and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If Skyline APU Engine #1 is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), the Sugarloaf shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes.

5. Operation and Maintenance

The generator(s) 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 CFR §60.4211(a)]

6. Annual Reporting For Demand Response Availability Over 15 Hours Per Year

If Sugarloaf operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as

Sugarloaf Mountain Corporation
Franklin County
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specified in §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109-3912

[40 CFR §60.4214(d)]

DONE AND DATED IN AUGUSTA, MAINE THIS 28 DAY OF January, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Patricia W. Aho for
PATRICIA W. AHO, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-845-71-C-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 12/30/14

Date of application acceptance: 1/5/15

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

