



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**Scarborough School Department
Cumberland County
Scarborough, Maine
A-897-71-E-R/A**

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

FINDINGS OF FACT

After review of the air emissions license renewal and 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

1. Scarborough School District (Scarborough) has applied to renew their Air Emission License permitting the operation of emission sources associated with their educational facility. The Scarborough High School Campus includes the Scarborough Middle School, the Wentworth School and Scarborough High School.
2. Scarborough has also requested an amendment to their license in order to remove the three currently licensed boilers, designated Boilers #3, #4 and #5, installed in Wentworth School, which have been decommissioned and replaced with two new boilers, which will also be designated Boilers #3 and #4. The two boilers installed in Scarborough High School, which are currently designated Boilers #6 and #7, will be re-designated Boilers #5 and #6, respectively.
3. The equipment addressed in this license is located at 11 Municipal Drive, Scarborough, ME.

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

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

<u>Equipment</u>	<u>Maximum Capacity</u> (MMBtu/hr)	<u>Maximum Firing Rate</u> (scf/hr)	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf./ Install.</u>	<u>Stack #</u>
Middle School					
Boiler #1	1.83	1,777	Natural Gas, Neg. S Distillate, 0.5% S	1996/1996	1
Boiler #2	1.83	1,777	Natural Gas, Neg. S Distillate, 0.5% S	1996/1996	1
Wentworth School					
Boiler #3 (new)	1.66	1,611	Natural Gas, Neg. S	2012/2014	2
Boiler #4 (new)	1.66	1,611	Natural Gas, Neg. S	2012/2014	2
Scarborough High School					
Boiler #5	7.0	6,796	Natural Gas, Neg. S Distillate, 0.5% S	2004/2004	3
Boiler #6	7.0	6,796	Natural Gas, Neg. S Distillate, 0.5% S	2004/2004	4

Generators

<u>Equipment</u>	<u>Maximum Capacity</u> (MMBtu/hr)	<u>Firing Rate</u> (gal/hr)	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf./ Install.</u>	<u>Stack #</u>
HS Caterpillar	4.77	34.8	Distillate, 0.0015% S	1993/1993	G1
WS Caterpillar	4.77	34.8	Distillate, 0.0015% S	2013/2014	G2

C. Application Classification

The application for Scarborough includes the licensing of increased emissions and the installation of new equipment. Therefore, the license is considered to be a renewal of currently licensed emission units and an amendment to add new equipment, and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (CMR) 115 (as amended).

With the annual fuel limit on the Boilers and the operating hours restriction on the emergency generators, the facility is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP.

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

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Emission Levels TPY</u>
PM	1.2	1.3	0.1	100
PM ₁₀	1.2	1.3	0.1	100
SO ₂	1.2	1.1	- 0.1	100
NO _x	19.2	8.5	- 10.7	100
CO	6.0	9.5	3.5	100
VOC	0.6	0.6	0.0	50
CO ₂ e	-	<100,000	<100,000	100,000

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

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

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

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

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

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

B. Facility Description

The Scarborough High School Campus includes Scarborough Middle School (MS), the Wentworth School (WS) and the High School (HS).

The Wentworth School is a new building, constructed in 2013-2014, which became fully operational on June 21, 2014.

Boilers #1 and #2 are located in the Middle School; Boilers #3 and #4 are located in the Wentworth School, and Boilers #5 and #6 are located in the High School.

The HS Caterpillar generator is located at the High School, and the WS Caterpillar is located at the Wentworth School.

C. Boilers #1, #2, #5 and #6

Boilers #1 and #2 were installed in the Middle School in 1996, and have input capacities of 1.83 MMBtu/hr; Boilers #5 and #6 were installed in the High School in 2004, and have input capacities of 7.0 MMBtu/hr. Boilers #1 and #2 exhaust through common Stack #1; Boilers #5 and #6 vent through Stack #3 and #4 respectively.

All four boilers have dual fuel burners and are capable of firing natural gas or distillate fuel. Currently all boilers fire natural gas; distillate fuel is used for backup.

Due to their size, the four boilers are not 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.

1. BPT Findings

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

Distillate Fuel

PM/PM ₁₀	–	0.08 lb/MMBtu based on 06-096 CMR 115, BPT
SO ₂	–	based on firing ASTM D396 compliant #2 fuel oil (0.5% sulfur by weight)
NO _x	–	0.3 lb/MMBtu based on 06-096 CMR 115, BPT
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 or previous BACT

Natural Gas

- PM/PM₁₀ – 0.05 lb/MMBtu based on 06-096 CMR 115, BPT
- SO₂ – 0.6 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- NO_x – 100 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- CO – 84 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- VOC – 5.5 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- Opacity – 06-096 CMR 101 or previous BACT

The BPT emission limits for Boilers #5 and #6 are the following [06-096 CMR 103, BPT]:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Boilers #5 & #6 - Distillate	PM	0.08
Boilers #5 & #6 - Natural Gas	PM	0.05

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

<u>Unit</u>	<u>PM</u> (lb/hr)	<u>PM₁₀</u> (lb/hr)	<u>SO₂</u> (lb/hr)	<u>NO_x</u> (lb/hr)	<u>CO</u> (lb/hr)	<u>VOC</u> (lb/hr)
Boiler #1 - Distillate	0.15	0.15	0.92	0.55	0.07	0.01
Boiler #1 - Natural Gas	0.09	0.09	0.01	0.18	0.15	0.01
Boiler #2 - Distillate	0.15	0.15	0.92	0.55	0.07	0.01
Boiler #2 - Natural Gas	0.09	0.09	0.01	0.18	0.15	0.01
Boiler #5 - Distillate	0.56	0.56	3.53	2.10	0.25	0.02
Boiler #5 - Natural Gas	0.35	0.35	0.01	0.68	0.57	0.04
Boiler #6 - Distillate	0.56	0.56	3.53	2.10	0.25	0.02
Boiler #6 - Natural Gas	0.35	0.35	0.01	0.68	0.57	0.04

Visible emissions from each stack serving boilers firing distillate fuel 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 three (3)-hour period.

Visible emissions from each stack serving boilers firing natural gas shall not exceed 10% opacity on a six (6)-minute block average, except for no more than one (1), six (6)-minute block average in a three (3)-hour period.

Scarborough shall be limited to 30,000 gallons per year of distillate fuel fired in Boilers #1, #2, #5 and #6, and 35 million standard cubic feet per year of natural gas fired in Boilers #1, #2, #3, #4, #5 and #6.

Compliance shall be demonstrated by maintenance of fuel records from the supplier showing the quantity of fuel delivered, and the sulfur content if applicable. Records of annual fuel use shall be kept on a calendar year basis.

Prior to July 1, 2016, or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired in Boilers #1, #2, #5 and #6 shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning July 1, 2016, or on the date specified in the statute, the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018, or on the date specified in the statute, the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm). The specific dates contained in this paragraph reflect the current dates in the statute as of the effective date of this license; however, if the statute is revised, the facility shall comply with the revised dates upon promulgation of the statute revision.

2. Periodic Monitoring

Periodic monitoring for the four boilers shall include recordkeeping to document fuel use on a calendar year basis. Documentation shall include the type of fuel used and sulfur content of the fuel, if applicable.

3. 40 CFR Part 63 Subpart JJJJJ

Boilers #1, #2, #5 and #6 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.

Gas-fired boilers are exempt from 40 CFR Part 63, Subpart JJJJJ. However, boilers which fire fuel oil are not. A "gas-fired boiler" is defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 CFR Part 63.11237]

Any boiler designed to burn fuels besides gaseous fuels prior to June 4, 2010 will be considered an existing boiler under this rule. A boiler which currently fires gaseous fuels, but converts back to firing another fuel (such as distillate fuel) in the future would become subject as an existing boiler at the time it is converted back to oil.

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 Scarborough 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 was to 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:

<u>Boiler Category</u>	<u>Tune-Up Frequency</u>
New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below	Every 2 years
<i>New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements</i>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
With a heat input capacity of <5 MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	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.

D. Boilers #3 and #4

Boilers #3 and #4 are Viessmann Model CT3-46 Vitocrossal 300, natural gas fired boilers, each with a maximum heat input of 1.66 MMBtu/hr. The boilers were manufactured in 2013 and installed in 2014, and vent through common Stack #2.

Due to the size of the boilers, they are not 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.

1. BACT Findings

Boilers #3 and #4 were installed in the Wentworth School in 2014 to supplement the geothermal heating system, to provide domestic hot water, and to provide heat to the building if primary power is lost. These boilers are serviced by an emergency generator.

Because of the size of these boilers, their limited use to supplement the geothermal heating system, to provide back-up heating capabilities in the event of loss of primary power, and to provide additional capacity to the vacuum tube solar domestic hot water system, as well as the fact they are natural gas fired, add-on emission controls would not be economically feasible given the boilers' already low emissions.

BACT for these boilers shall be the firing of natural gas, and operation and maintenance of the boilers in accordance with the manufacturer's recommendations.

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

- PM/PM₁₀ – 0.05 lb/MMBtu based on 06-096 CMR 115, BPT
- SO₂ – 0.6 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- NO_x – 100 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- CO – 84 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- VOC – 5.5 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- Opacity – 06-096 CMR 101 or previous BACT

The BACT emission limits for the boilers are the following:

<u>Unit</u>	<u>PM</u> (lb/hr)	<u>PM₁₀</u> (lb/hr)	<u>SO₂</u> (lb/hr)	<u>NO_x</u> (lb/hr)	<u>CO</u> (lb/hr)	<u>VOC</u> (lb/hr)
Boiler #3	0.35	0.35	0.01	0.68	0.57	0.04
Boiler #4	0.35	0.35	0.01	0.68	0.57	0.04

Visible emissions from each boiler shall not exceed 10% opacity on a six (6)-minute block average basis, except for no more than one (1), six (6)-minute block average in a three (3)-hour period.

Scarborough shall be limited to 30,000 gallons per year of distillate fuel and 35 million standard cubic feet per year of natural gas.

2. Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document fuel use both on a calendar year basis total basis.

3. 40 CFR Part 63 Subpart JJJJJ

Boilers #3 and #4 are not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ) as they are natural gas fired.

E. HS Caterpillar Emergency Generator

Scarborough operates a 750 horse power, Caterpillar emergency generator located at the High School. The emergency generator is rated at 4.77 MMBtu/hr and fires distillate fuel. The generator was manufactured and installed in 1993.

1. BPT Findings

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

- PM/PM₁₀ - 0.12 lb/MMBtu from 06-096 CMR 103
- SO₂ - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x - 3.2 lb/MMBtu from AP-42 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 the generator are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
HS Caterpillar Generator	PM	0.12

<u>Unit</u>	<u>PM</u> (lb/hr)	<u>PM₁₀</u> (lb/hr)	<u>SO₂</u> (lb/hr)	<u>NO_x</u> (lb/hr)	<u>CO</u> (lb/hr)	<u>VOC</u> (lb/hr)
HS Caterpillar Generator	0.57	0.57	0.01	15.26	4.05	0.43

Visible emissions from the distillate fuel-fired emergency generator shall not exceed 20% opacity on a six (6)-minute block average, except for no more than two (2), six (6) minute block averages in a three (3)-hour period.

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

The emergency generator is 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 generator is 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 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 not applicable to the emergency generator listed above since the unit was ordered before July 11, 2005 and manufactured before April 1, 2006.

3. 40 CFR Part 63, Subpart ZZZZ

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is not applicable to the emergency generator listed above. The 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 residential, commercial, or institutional emergency engine and it does not operate or 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 the emergency generator 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 generator to be subject to 40 CFR Part 63, Subpart ZZZZ, and require compliance with all applicable requirements.

F. WS Caterpillar Emergency Generator

Scarborough operates a 750 horsepower, Tier 4 certified, Caterpillar Model 500 generator at the Wentworth School. The emergency generator is rated at 4.77 MMBtu/hour and fires distillate fuel. The generator was manufactured in 2013 and installed in 2014.

1. BACT Findings

The BACT emission limits for the generator are based on the following:

- PM/PM₁₀ - 0.0046 lb/MMBtu, Manufacturer's Guaranteed Not to Exceed (MGNE) emission factor
- SO₂ - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x - 0.0926 lb/MMBtu, MGNE
- CO - 0.8099 lb/MMBtu, MGNE
- VOC - 0.0440 lb/MMBtu, MGNE
- Opacity - 06-096 CMR 101

The BACT emission limits for the generator are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
WS Caterpillar Generator	PM	0.12

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
WS Caterpillar Generator	0.02	0.02	0.01	0.44	3.86	0.21

Visible emissions from the distillate fuel-fired generator shall not exceed 20% opacity on a six (6)-minute block average, except for no more than two (2), six (6)-minute block averages in a three (3)-hour period.

2. 40 CFR Part 60, Subpart III

The federal regulation 40 CFR Part 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* is applicable to the emergency generator listed above since the unit was ordered after July 11, 2005 and manufactured after April 1, 2006.

By meeting the requirements of Subpart III, the unit also meets the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ.

a. Emergency Definition:

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

- (1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary ICE in emergency situations.
- (2) Paragraph (1) above notwithstanding, the emergency stationary ICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:
 - (i) Maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

- (ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (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.

b. 40 CFR Part 60, Subpart IIII Requirements:

(1) Manufacturer Certification Requirement

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

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in the generator shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR §60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

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

(4) Operation and Maintenance Requirements

The generator 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. Facility 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

The generators shall each be limited to 100 hours per year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours per year of the 100 hours per 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

Scarborough shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generator 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), Scarborough 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 Scarborough 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)]

G. Annual Emissions

1. Total Annual Emissions

Scarborough shall be restricted to the following annual emissions, based on a calendar year. The tons per year figures were calculated based on a fuel limit of 30,000 gallons of distillate fuel and 35 million standard cubic feet of natural gas for the boilers, and 100 hours per year of operation for each of the emergency generators.

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

	<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
Boilers	1.1	1.1	1.1	2.4	1.6	0.1
HS Caterpillar Generator	0.2	0.2	0.1	5.4	1.4	0.2
WS Caterpillar Generator	0.1	0.1	0.1	0.7	6.5	0.4
Total TPY	1.4	1.4	1.3	8.5	9.5	0.7

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).

Based on the facility’s fuel use limits, the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, Scarborough is below the major source threshold of 100,000 tons of CO₂e per year. Therefore, no additional licensing requirements are needed to address GHG emissions 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:

<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-897-71-E-R/A subject to the following conditions.

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

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
- [06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) **Boilers #1, #2, #5 and #6**

A. Fuel

1. Boilers #1, #2, #5 and #6 shall fire distillate fuel or natural gas.
2. Total fuel use for Boilers #1, #2, #5 and #6 shall not exceed 30,000 gallons per year of distillate fuel fired in Boilers #1, #2, #5, #6, and 35 million standard cubic feet of natural gas fired in Boilers #1, #2, #3, #4, #5 and #6, based on a calendar year basis. [06-096 CMR 115, BPT]

3. Prior to July 1, 2016 or the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired in the boiler shall be ASTM D396 compliant #2 fuel oil (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BPT]
4. Beginning July 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
5. Beginning July 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
6. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following:

<u>Emission Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Boilers #5 & #6 - distillate	PM	0.08	06-096 CMR 103(2)(B)(1)(a),BPT
Boilers #5 & #6 - nat. gas	PM	0.05	06-096 CMR 103(2)(B)(1)(a),BPT

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

<u>Emission Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Boiler #1 & #2 - distillate	0.15	0.15	0.92	0.55	0.07	0.01
Boiler #1 & #2 - natural gas	0.09	0.09	0.01	0.18	0.15	0.01
Boiler #5 & #6 - distillate	0.56	0.56	3.53	2.10	0.25	0.02
Boiler #5 & #6 - natural gas	0.35	0.35	0.01	0.68	0.57	0.04

D. Visible emissions from Boilers #1, #2, #5 and #6, when firing distillate fuel, 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 three (3)-hour period. [06-096 CMR 101]

E. Visible emissions from Boilers #1, #2, #5 and #6, when firing natural gas, shall not exceed 10% opacity on a six (6)-minute block average, except for no more than one (1), six (6)-minute block average in a continuous three (3)-hour period. [06-096 CMR 101]

F. Boiler MACT (40 CFR Part 63, Subpart JJJJJ) Requirements for Boilers #1, #2, #5 and #6 [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:

<u>Boiler Category</u>	<u>Tune-Up Frequency</u>
New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below	Every 2 years
<i>New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements</i>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
With a heat input capacity of < 5 MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	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 be 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.

(17) **Boilers #3 and #4**

A. Fuel

1. Boilers #3 and #4 shall fire only natural gas.
2. Total fuel use for Boilers #1, #2, #5 and #6 shall not exceed 30,000 gallons per year of distillate fuel fired in Boilers #1, #2, #5, #6, and 35 million standard cubic feet of natural gas fired in Boilers #1, #2, #3, #4, #5 and #6, based on a 12-month rolling total basis. [06-096 CMR 115, BPT]
3. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of the fuel delivered. Records of annual fuel use shall be kept on a monthly and 12-month rolling total basis. [06-096 CMR 115, BPT]

- B. Emissions from each of the boilers shall not exceed the following [06-096 CMR 115, BPT]:

<u>Emission Unit</u>	<u>PM</u> (lb/hr)	<u>PM₁₀</u> (lb/hr)	<u>SO₂</u> (lb/hr)	<u>NO_x</u> (lb/hr)	<u>CO</u> (lb/hr)	<u>VOC</u> (lb/hr)
Boilers #3 & #4	0.35	0.35	0.01	0.68	0.57	0.04

C. Visible Emissions

Visible emissions from each boiler firing natural gas shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1), six (6) minute block average in a three (3) hour period. [06-096 CMR 101]

(18) **HS Caterpillar Emergency Generator**

The HS Caterpillar emergency generator shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]

- A. Scarborough shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. [06-096 CMR 115, BACT]
- B. If the generator 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, Scarborough 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, BACT]
- C. The fuel sulfur content for the HS Caterpillar generator shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BPT]
- D. Emissions shall not exceed the following:

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

- E. 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>
HS Caterpillar Generator	0.57	0.57	0.01	15.26	4.05	0.43

- F. Visible Emissions

Visible emissions from the distillate fuel-fired generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a three (3)-hour period. [06-096 CMR 101]

G. 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.

(19) **WS Caterpillar Emergency Generator**

A. The WS Caterpillar emergency generator shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]

B. Emissions shall not exceed the following:

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

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

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
WS Caterpillar Generator	0.02	0.02	0.01	0.44	3.86	0.21

D. Visible Emissions

Visible emissions from the distillate fuel-fired generator shall each not exceed 20% opacity on a six (6)-minute block average, except for no more than two (2), six (6)-minute block averages in a continuous three (3)-hour period. [06-096 CMR 101]

E. The WS Caterpillar WS Generator shall meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:

1. **Manufacturer Certification**

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

2. Ultra-Low Sulfur Fuel

The fuel fired in the generator shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [40 CFR §60.4207(b) and 06-096 CMR 115]

3. Non-Resetable Hour Meter

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

4. Annual Time Limit for Maintenance and Testing

- a. The generator shall be limited to 100 hours per year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours per year of the 100 hours per 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]
- b. Scarborough shall keep records that include maintenance conducted on the generator(s) 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 generator 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 facility 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 shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by Scarborough that are approved by the engine manufacturer. Scarborough 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 Scarborough 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)]

- (20) Scarborough shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 9 DAY OF March, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Come for
PATRICIA W. AHO, COMMISSIONER

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

[Note: If a complete renewal application, as determined by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the renewal of the license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 06/06/2014

Date of application acceptance: 06/10/2014

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This Order prepared by N. Lynn Cornfield, PE, Bureau of Air Quality.

