**South Portland School District –
South Portland High School
Cumberland County
South Portland, Maine
A-1074-71-A-N (SM)**

**Departmental
Findings of Fact and Order
Air Emission License
Initial License – After-the-Fact**

FINDINGS OF FACT

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. The equipment addressed in this license is located at 637 Highland Avenue, South Portland, ME.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type, % sulfur	Install. Date	Stack #
Boiler #4	2.5	2500 scf/h	NG, neg.	2013	1
Boiler #5	2.5	2500 scf/h	NG, neg.	2013	1
Boiler #6	2.5	2500 scf/h	NG, neg.	2013	1
Boiler #7	2.5	2500 scf/h	NG, neg.	2013	1

Generator

Equipment	Maximum Capacity MMBtu/hr	Firing Rate (gal/hr)	Fuel Type, % sulfur	Instal-lation Date	Stack #
Emergency Generator	4.93	36.5	Distillate, 0.0015% S	2013	G1

C. Definitions

Distillate Fuel means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396, diesel fuel oil numbers 1 or 2, as defined in ASTM D975, kerosene, as defined in ASTM D3699, biodiesel as defined in ASTM D6751, or biodiesel blends as defined in ASTM D7467.

D. Application Classification

SPHS is classified as an existing source that is applying for its first air emission license, after the fact. The Department has determined the facility is a minor source and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended).

The new source is considered a major source based on whether or not expected emissions exceed the "Significant Emission Levels" as defined in the Department's regulations. The emissions for the new source are determined by the maximum future license allowed emissions, as follows:

Pollutant	Maximum Future License TPY	Significance Level TPY
PM	2.3	100
PM_{10}	2.3	100
SO_2	0.2	100
NO_x	5.1	100
CO	3.8	100
VOC	0.3	50
CO_2e	<100,000	100,000

With the annual fuel limit on the boilers, and the operating hours restriction on the emergency generator, the facility is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor.

With the annual operating hours restriction on the emergency generator, the facility is 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 as well as for those sources located in designated non-attainment areas.

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 #4-#7, inclusive

SPHS operates Boilers #4 to #7, inclusive, for heat.

Boilers #4, #5, #6 and #7 are each Cleaver Brooks Clear Fire condensing boilers, rated at 2.5 MMBtu/hr, firing natural gas. The boilers were installed in late 2013 and exhaust through common Stack #1.

Due to the size of these 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.

A. BACT Findings

The BACT emission limits for Boilers #4, #5, #6 and #7 are based on the following:

PM/PM_{10}	– 0.05 lb/MMBtu based on 06-096 CMR 115, BACT
SO_2	– 0.6 lb/MMscf: AP-42, Table 1.4-2 (dated 7/98)
NO_X	– 100 lb/MMscf: AP-42, Table 1.4-1 (dated 7/98)
CO	– 84 lb/MMscf: AP-42, Table 1.4-1 (dated 7/98)
VOC	– 5.5 lb/MMscf: AP-42, Table 1.4-2 (dated 7/98)
Opacity	– Visible emissions from common Stack #2 serving Boilers #4, #5, #6 and #7 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]

The BPT emission limits for the boilers are the following:

Unit	PM	PM_{10}	SO_2	NO_x	CO	VOC
Boiler #4	0.13	0.13	0.01	0.24	0.20	0.01
Boiler #5	0.13	0.13	0.01	0.24	0.20	0.01
Boiler #6	0.13	0.13	0.01	0.24	0.20	0.01
Boiler #7	0.13	0.13	0.01	0.24	0.20	0.01

SPHS shall be limited to 400,000 standard cubic feet of natural gas per year, for the facility.

B. Periodic Monitoring

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

C. 40 CFR Part 63 Subpart JJJJJJ

As Boilers #4 - #7 inclusive fire natural gas, they are not subject to 40 CFR Part 63 Subpart JJJJJJ.

C. Emergency Generator

SPHS operates a Kohler, model 500RE0ZVC, distillate-fired, emergency generator, rated at 4.93 MMBtu/hr, manufactured in 2012.

1. BACT Findings

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

PM/PM_{10}	– 0.12 lb/MMBtu based on 06-096 CMR 103
SO_2	– based on firing 0.0015% sulfur, 0.0015 lb/MMBtu
NOx	– 2.58 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)
CO	– 2.26 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)
VOC	– 0.36 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)
Opacity	– Visible emissions from the diesel 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.

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator	0.59	0.59	0.01	15.78	4.19	0.44

The emergency generator shall be limited to 100 hours of non-emergency operation per year, based on a calendar year. There is no limit on emergency operation. SPHS shall keep records of the hours of operation and reason for operation, of the emergency generator.

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 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 IIII, 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.

Emergency Definition:

Emergency stationary internal combustion engine is defined in 40 CFR Part 60, Subpart IIII as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. 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. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

40 CFR Part 60, Subpart IIII Requirements:

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)]

The diesel fuel fired in the generator shall not exceed 15 ppm sulfur (0.0015% sulfur). [40 CFR §60.4207(b)]

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

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

The generator shall be limited to 100 hours per year for maintenance and testing. 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 or generating income or a financial arrangement with another entity). [40 CFR §60.4211(f)]

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

Annual Emissions

1. Total Annual Emissions

SPHS shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits were calculated based on 400,000 standard cubic feet of natural gas fired in the boilers, and 100 hours per year operation of the emergency generator.

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

	PM	PM_{10}	SO_2	NO_x	CO	VOC
Boilers #4-#7	2.2	2.2	0.1	4.3	3.6	0.2
Emergency Generator	0.1	0.1	0.1	0.8	0.2	0.1
Total TPY	**2.3**	**2.3**	**0.2**	**5.1**	**3.8**	**0.3**

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 (CO_2e).

Based on the facility's fuel use limit(s), 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, SPHS is below the major source threshold of 100,000 tons of CO_2e 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:

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-1074-71-A-N 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 #4-#7**

A. Fuel

SPHS shall maintain 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 calendar year. [06-096 CMR 115, BPT]

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

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #4	0.32	0.32	0.01	0.61	0.51	0.03
Boiler #5	0.32	0.32	0.01	0.61	0.51	0.03
Boiler #6	0.32	0.32	0.01	0.61	0.51	0.03
Boiler #7	0.32	0.32	0.01	0.61	0.51	0.03

C. Visible Emissions

Visible emissions from common Stack #1, serving Boilers #4 to #7 inclusive, 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]

(17) **Emergency Generator**

A. The generator is limited to 100 hours per year total operation, based on a calendar year. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115]

B. Emissions shall not exceed the following:

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

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

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator	0.59	0.59	0.01	15.78	4.19	0.44

D. Visible emissions from the 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 continuous three (3)-hour period. [06-096 CMR 101]

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

1. The generator 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. The diesel fuel fired in the generator shall not exceed 15 ppm sulfur (0.0015% sulfur). 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. A non-resettable hour meter shall be installed and operated on the generator. [40 CFR §60.4209(a)]

4. The generator shall be limited to 100 hours per year for maintenance and testing. 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 or generating income or a financial arrangement with another entity). These limits are based on a calendar. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115]

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

(18) SPHS 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 24 DAY OF March , 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone 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: 06/26/2012
Date of application acceptance: 06/28/2012

Date filed with the Board of Environmental Protection:

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

Filed
MAR 25 2015
State of Maine
Board of Environmental Protection