Dorothea Dix Psychiatric Center
Penobscot County
Bangor, Maine
A-206-71-L-R/M (SM)

Departmental
Findings of Fact and Order
Air Emission License
Renewal and Minor Revision

FINDINGS OF FACT

After review of the air emission license renewal and minor revision 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

Dorothea Dix Psychiatric Center (Dorothea Dix) has applied to renew their Air Emission License permitting the operation of emission sources associated with their psychiatric care facility. Dorothea Dix has also requested a minor revision to their license in order to include a parts washer and to correct the size of Boiler #1 to the size found on the boiler plate. The equipment addressed in this license is located at 656 State Street, Bangor, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type, % sulfur	Date of Manuf.	Stack #
Boiler #1[1]	9.85	71 gal/hr	Distillate Fuel, 0.2% by weight	1997	1
		9,600 scf/hr	Natural Gas		
Boiler #2	25.1	180 gal/hr	Distillate Fuel, 0.2% by weight	1970	1
		24,400 scf/hr	Natural Gas		
Boiler #3	12.5	90 gal/hr	Distillate Fuel, 0.2% by weight	1970	1
		12,100 scf/hr	Natural Gas		

[1] Boiler #1has been corrected to 9.85 MMBtu/hr from 12.5 MMbtu/hr in the previous licenses

Generators

Equipment	Output Capacity KW	Maximum Capacity (MMBtu/hr)	Firing Rate (gal/hr)	Fuel Type, % sulfur	Date of Manuf.	Stack #
Generator #1	750	7.26	53	Distillate Fuel, 0.0015% by weight	1991	1
Generator #3	75	0.83	6	Distillate Fuel, 0.0015% by weight	1970	1
Generator #4	90	0.96	7	Distillate Fuel, 0.0015% by weight	1970	NA

Parts Washer

Emission Unit ID	Capacity (gallons)	Solvent Used	Solvent % VOC
Parts Washer	15	Safety Kleen Premium Solvent	100%

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

The application for Dorothea Dix does not include the licensing of increased emissions but does include the installation of new equipment. The license is therefore considered to be both a renewal and a minor revision of the current air emission license per Major and Minor Source Air Emission License Regulations, 06-096 Code of Maine Rules (CMR) 115 (as amended). With operating hours restrictions on the emergency generators and fuel use limits for the boilers, Dorothea Dix is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor. Because of the restrictions, Dorothea Dix is also licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP.

This modification will increase emissions by less than 4 ton/year for each single pollutant not including greenhouse gases (GHG) and less than 8 ton/year for all pollutants combined not including GHG. Therefore, this modification is determined to be a minor revision 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 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 #1, #2, and #3

Dorothea Dix operates three Boilers, Boilers #1, #2, and #3. The boilers are rated at 9.85 MMBtu/hr, 25.1 MMBtu/hr, and 12.5 MMBtu/hr respectively and fire natural gas with distillate fuel as back-up fuel. The boilers were installed in 1997, 1970, and 1970 respectively, and they all exhaust through the same stack.

Boiler #1 uses low NO_x burners and flu-gas recirculation to lower NO_x emission levels.

1. BPT Findings

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

Natural Gas

PM/PM_{10}	–	0.05 lb/MMBtu based on 06-096 CMR 115, BPT
SO_2	–	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 for Boilers #2 and #3
	–	32 lb/MMscf based on AP-42, Table 1.4-1, dated 07/98 for Boiler #1
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 115, BPT

Distillate Fuel

PM/PM_{10}	–	0.08 lb/MMBtu based on 06-096 CMR 115, BPT for Boiler #1
	–	0.12 lb/MMBtu based on 06-096 CMR 115, BPT for Boilers #2 and #3
SO_2	–	based on firing distillate fuel with a maximum sulfur content of 0.2% 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 115, BPT

The BPT emission limits for the boiler are the following:

Unit	Pollutant	lb/MMBtu: Natural Gas	lb/MMBtu: Distillate Fuel
Boiler #1	PM	0.05	0.08
Boiler #2	PM	0.05	0.12
Boiler #3	PM	0.05	0.12

Natural Gas

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 Natural gas	0.49	0.49	0.01	0.96	0.81	0.05
Boiler #2 Natural gas	1.26	1.26	0.01	0.78	2.05	0.13
Boiler #3 Natural gas	0.63	0.63	0.01	1.21	1.02	0.07

Distillate Fuel

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 Distillate fuel	1.18	1.18	2.02	1.42	0.36	0.02
Boiler #2 Distillate fuel	3.01	3.01	5.11	3.60	0.90	0.06
Boiler #3 Distillate fuel	1.50	1.50	2.56	1.80	0.45	0.03

Visible emissions from each of the boilers shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three -hour period.

Dorothea Dix shall be limited to 190,000 MMBtu/year of energy use by the boilers[2], equivalent to 184,466,000 scf/yr of natural gas use or 1,357,000 gallons/year of distillate fuel use.

2. Periodic Monitoring

Periodic monitoring for each boiler shall include recordkeeping to document fuel use both on a monthly and calendar year basis. Documentation shall include the type and quantity of fuel used and the percent sulfur, if applicable.

3. NSPS

Due to the years of manufacture of Boilers #2 and #3 and the size of Boiler #1, none 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. Boiler #1 was previously licensed above 10 MMBtu/hr and was therefore considered to be subject to Subpart Dc. Because it is no longer subject, Dorothea Dix shall notify EPA at the following address:

U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100 (OES04-2)
Boston, MA 02109-3912
Attn: Air Compliance Clerk

[06-096 CMR 115, BPT]

4. NESHAP

Boilers #1, #2, and #3 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 JJJJJJ). The units are considered existing institutional boilers, but Boilers #2 and #3 are rated for higher maximum input capacities than 10 MMBtu/hr and each boiler fires natural gas; they are all therefore not subject to this subpart.

Gas-fired boilers are exempt from 40 CFR Part 63, Subpart JJJJJJ. 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 §63.11237]

[2] Limits were provided in the previous license for natural gas and oil individually. This limit is calculated based on total energy input represented by the two limits from the previous limits in order to allow for more operationally flexibility, namely the sole firing of natural gas.

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.

C. Generators #1, #3, and #4

Dorothea Dix operates three emergency generators; Generator #1, Generator #3, and Generator #4. The emergency generators are generator sets with each set consisting of an engine and an electrical generator. The emergency generators have engines rated at 7.26 MMBtu/hr, 0.83 MMBtu/hr, and 0.96 MMBtu/hr, respectively which fire distillate fuel. The emergency generators were manufactured in 1991, 1970, and 1980, respectively.

1. BPT Findings

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

PM/PM_{10}	- 0.12 lb/MMBtu from 06-096 CMR 103 for Generator #1 - 0.31 lb/MMBtu from AP-42 dated 10/96 for Generators #3 and #4
SO_2	- 0.0015 lb/MMBtu based on the 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 generators are the following:

Unit	Pollutant	lb/MMBtu
Generator #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)
Generator # 1 (7.26 MMBtu/hr) Distillate fuel	0.87	0.87	0.01	23.23	6.17	0.65
Generator # 3 (0.83 MMBtu/hr) Distillate fuel	0.25	0.25	0.01	3.66	0.79	0.30
Generator # 4 (0.96 MMBtu/hr) Distillate fuel	0.29	0.29	0.01	4.23	0.91	0.35

Visible emissions from each of the distillate fuel fired generators manufactured before 2000 shall not exceed an opacity of 30% on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period.

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

Emergency generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency generators are not to be used for prime power when reliable offsite power is available; nor to operate or to be contractually obligated to be available 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. NSPS

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 engines listed above since the units were ordered before July 11, 2005 and manufactured before April 1, 2006.

3. NESHAP

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 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 institutional 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 any emergency engine 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

engine to be subject to 40 CFR Part 63, Subpart ZZZZ, and require compliance with all applicable requirements.

D. Parts Washer

The Parts Washer has a design capacity of 15 gallons. Dorothea Dix uses a 100% VOC solvent in the Parts Washer and it is therefore subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended). Records shall be kept documenting compliance.

E. Fugitive Emissions

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

F. General Process Emissions

Visible emissions from any general process source shall not exceed an opacity of 20% on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period.

G. Annual Emissions

1. Total Annual Emissions

Dorothea Dix shall be restricted to the following annual emissions, based on a calendar year basis. The tons per year limits were calculated based on a yearly energy limit of 190,000 MMBtu for the three boilers where the combination of boiler and fuel with the highest TPY limit per pollutant was used and 100 hours of operation per year each for the three generators:

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**
Boilers, Distillate Fuel	11.40	11.40	19.27	13.57	--	--
Boilers, Natural Gas	--	--	--	--	7.75	0.51
Generator #1	0.04	0.04	0.01	1.16	0.31	0.03
Generator #3	0.01	0.01	0.01	0.18	0.04	0.01
Generator #4	0.01	0.01	0.01	0.21	0.05	0.02
Total TPY	**11.5**	**11.5**	**19.3**	**15.1**	**8.1**	**0.6**

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).

The quantity of CO_2e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's fuel use limit;
- 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

Dorothea Dix previously submitted an ambient air quality impact analysis for air emission license A-206-71-F-M (dated October 30, 2001) demonstrating that emissions from the facility, in conjunction with all other sources, do not violate Ambient Air Quality Standards (AAQS). An additional air quality impact analysis is not required for this renewal.

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-206-71-L-R/M 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, and #3**

A. Fuel

1. Dorothea Dix shall be limited to 190,000 MMBtu/year of energy use by the boilers, equivalent to 184,466,000 scf/yr of natural gas use or 1,357,000 gallons/year of distillate fuel use. [06-096 CMR 115, BPT]
2. Prior to July 1, 2018, the facility shall fire distillate fuel with a maximum sulfur content not to exceed 0.2% by weight. [06-096 CMR 115, BPT/BACT]
3. Beginning July 1, 2018, the facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 CMR 115, BPT]
4. 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. Each of the boilers shall use O_2 trim at all times that the boilers are in operation. Dorothea Dix shall record boiler downtime and O_2 trim downtime for each boiler in a

log. The log shall indicate the date, time, and duration of all boiler downtime or O_2 trim system downtime. [06-096 CMR 115, BPT]

C. The fire-tubes in each boiler shall be cleaned annually, on a calendar year basis. Dorothea Dix shall keep records indicating dates of each annual cleaning. [06-096 CMR 115, BPT]

D. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu: Natural Gas	lb/MMBtu: Distillate Fuel	Origin and Authority
Boiler #1	PM	0.05	0.08	06-096 CMR 115, BPT
Boiler #2	PM	0.05	0.12	06-096 CMR 115, BPT
Boiler #3	PM	0.05	0.12	06-096 CMR 115, BPT

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

Natural Gas

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 Natural gas	0.49	0.49	0.01	0.96	0.81	0.05
Boiler #2 Natural gas	1.26	1.26	0.01	0.78	2.05	0.13
Boiler #3 Natural gas	0.63	0.63	0.01	1.21	1.02	0.07

Distillate Fuel

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 Distillate fuel	1.18	1.18	2.02	1.42	0.36	0.02
Boiler #2 Distillate fuel	3.01	3.01	5.11	3.60	0.90	0.06
Boiler #3 Distillate fuel	1.50	1.50	2.56	1.80	0.45	0.03

F. Visible emissions from each of the boilers shall not exceed 10% on a six-minute block average basis, except for no more than one six-minute block average in a three-hour period [06-096 CMR 115, BPT]

G. Dorothea Dix shall notify EPA that Boiler #1 is no longer subject to 40 CFR Part 60, Subpart Dc. [06-096 CMR 115, BPT]

H. Dorothea Dix's boilers are exempt from 40 CFR Part 63, Subpart JJJJJJ because they are gas-fired. 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 for each of the boilers. If any of the boilers convert back to firing another fuel (such as distillate fuel) in the future, it will become subject so 40 CFR Part 63, Subpart JJJJJJ as an existing boiler at the time it is converted back to oil. [40 CFR §63.11237]

(17) **Generators #1, #3, and #4**

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

B. Dorothea Dix shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the 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 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, Dorothea Dix shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [06-096 CMR 115, BPT]

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

E. Emissions shall not exceed the following:

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

F. 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)
Generator # 1 (7.26 MMBtu/hr) Distillate fuel	0.87	0.87	0.01	23.23	6.17	0.65
Generator # 3 (0.83 MMBtu/hr) Distillate fuel	0.25	0.25	0.01	3.66	0.79	0.30
Generator # 4 (0.96 MMBtu/hr) Distillate fuel	0.29	0.29	0.01	4.23	0.91	0.35

G. Visible Emissions

Visible emissions from each of the generators shall not exceed an opacity of 30 percent on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101 (2)(B)(f)]

H. 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. [06-096 CMR 115, BPT]

(18) **Parts Washer**

Parts washers at Dorothea Dix are subject to Solvent Cleaners, 06-096 CMR 130 (as amended).

A. Dorothea Dix shall keep records of the amount of solvent added to each parts washer. [06-096 CMR 115, BPT]

B. The following are exempt from the requirements of 06-096 CMR 130 [06-096 CMR 130]:
   1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
   2. Wipe cleaning; and,
   3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.

C. The following standards apply to cold cleaning machines that are applicable sources under Chapter 130.
   1. Dorothea Dix shall attach a permanent conspicuous label to each unit

summarizing the following operational standards [06-096 CMR 130]:

a. Waste solvent shall be collected and stored in closed containers.

b. Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.

c. Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.

d. The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.

e. Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the parts washer.

f. When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.

g. Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in covered containers.

h. Work area fans shall not blow across the opening of the parts washer unit.

i. The solvent level shall not exceed the fill line.

2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [06-096 CMR 130]

(19) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five minutes in any one-hour period. Compliance shall be determined by an aggregate of the individual fifteen-second opacity observations which exceed 20% in any one hour. [06-096 CMR 101]

(20) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. [06-096 CMR 101]

(21) Dorothea Dix 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 27 DAY OF May , 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, COMMISSIONER

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

[Note: If a complete renewal application, as determined by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S.A. §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: 03/11/2016
Date of application acceptance: 03/22/2016

Date filed with the Board of Environmental Protection:

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

Filed
MAY 31 2016
State of Maine
Board of Environmental Protection