



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

**IDEXX Laboratories, Inc.  
Cumberland County  
Westbrook, Maine  
A-572-71-J-R (SM)**

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

**FINDINGS OF FACT**

After review of the air emissions license renewal 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 (the Department) finds the following facts:

**I. REGISTRATION**

**A. Introduction**

IDEXX Laboratories, Inc. (IDEXX) has applied to renew their Air Emission License permitting the operation of emission sources associated with their diagnostic test kit manufacturing facility. The equipment addressed in this license is located at One IDEXX Drive, Westbrook, Maine.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

**Boilers**

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Dates of...		Stack #
				Manufacture	Installation	
Boiler #3	6.3	6,155 scf/hr	Natural Gas	2002	2002	3
Boiler #6	16.7	16,737 scf/hr		2007	2008	6
Boiler #7	16.7	16,737 scf/hr				

Note: Boilers #1 and #2 were taken off-line and removed from the building in 2014; they are hereby removed from the facility's air emission license.

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

**Generators and Engines**

<b>Equipment</b>	<b>Max. Input Capacity (MMBtu/hr)</b>	<b>Rated Output</b>	<b>Firing Rate (gal/hr)</b>	<b>Fuel Type, % sulfur</b>	<b>Manuf. Date</b>	<b>Stack #</b>
Generator #1	4.88	500 kW	34.4	Distillate, 0.0015% by weight	2009	11
Generator #2	2.68	275 kW	20.4		2002	12
Generator #3	5.85	600 kW	42.7		2007	13
Generator #4	7.32	750 kW	52.7		2009	14
Fire Pump #1	1.68	240 hp	13.5		1977	FP1

C. Definitions

For the purposes of this license, *distillate fuel* means the following fuels:

- Fuel oil which 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 IDEXX does not include the licensing of increased emissions or the installation of new or modified equipment; therefore, the license is considered to be a renewal of currently licensed emission units only 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 limit on operating hours of the emergency generators, the facility is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor source of air pollutant emissions. With the annual fuel limit on the boilers and the limit on operating hours of 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.

**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 following:

- 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 #3, #6, and #7

IDEXX operates Boilers #3, #6, and #7 to meet facility steam and heat needs. The boilers are rated at 6.3 MMBtu/hour, 16.7 MMBtu/hour, and 16.7 MMBtu/hour, respectively, and fire natural gas. Boiler #3 was installed in 2002 and exhausts through Stack #3; Boilers #6 and #7 were installed in 2008 and both exhaust through Stack #6.

1. BACT/BPT Findings

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

- PM, PM<sub>10</sub> – 0.05 lb/MMBtu; A-572-71-I-R/A (July 21, 2010), BPT
- SO<sub>2</sub> – 0.6 lb/MMscf; AP-42 Table 1.4-2 (7/98)
- NO<sub>x</sub> – 100 lb/MMscf; AP-42 Table 1.4-1 (7/98)
- CO – 84 lb/MMscf; AP-42 Table 1.4-1 (7/98)
- VOC – 5.5 lb/MMscf; AP-42 Table 1.4-2 (7/98)
- 06-096 CMR 101

The BACT/BPT emission limits for the boilers are the following:

Unit	Pollutant	lb/MMBtu
Boilers #3, #6, and #7	PM	0.05

Natural Gas- Fired Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #3 (6.3 MMBtu/hr)	0.31	0.31	0.01	0.62	0.52	0.03
Boiler #6 (16.7 MMBtu/hr)	0.84	0.84	0.01	1.67	1.41	0.09
Boiler #7 (16.7 MMBtu/hr)	0.84	0.84	0.01	1.67	1.41	0.09

Visible emissions from Boiler #3 and from the combined stack serving Boilers #6 and #7 shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a continuous three-hour period.

Boilers #1, #2, and #3 have previously been limited to a combined firing of 100,000,000 scf of natural gas on a 12-month rolling total basis, and Boilers #6 and #7 have been limited to a combined firing of 70,000,000 scf of natural gas on a 12-month rolling total basis. Boilers #1 and #2 have since been removed from the premises. The facility has proposed the combined fuel use cap of 150,000,000 scf of natural gas on a 12-month rolling total basis for Boilers #3, #6, and #7. Total annual licensed emissions have been calculated based on this new facility natural gas firing cap. Delivery records from the supplier shall be kept to document compliance.

2. Periodic Monitoring

Periodic monitoring for Boilers #3, #6, and #7 shall include recordkeeping to document fuel use both on a monthly and 12-month rolling total basis.

3. New Source Performance Standards (NSPS): 40 CFR Part 60, Subpart Dc

Due to its size, Boiler #3 is not subject to NSPS 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hour manufactured after June 9, 1989.

Due to the sizes and years of manufacture, Boilers #6 and #7 are both subject to NSPS 40 CFR Part 60, Subpart Dc, because they are units greater than 10 MMBtu/hour manufactured after June 9, 1989. However, units firing natural gas are not subject to emissions standards, emissions monitoring, or compliance and test methods and procedures requirements for PM and SO<sub>2</sub> of this Subpart. Subpart Dc requires the facility to record and maintain records of the amount of fuel combusted during each calendar month in any applicable steam generating unit which combusts only natural gas. [40 CFR Part 60, Subpart Dc §60.48c (g)(2)]

4. National Emission Standards for Hazardous Air Pollutants (NEHSHAP):  
40 CFR Part 63, Subpart JJJJJ

Boilers #3, #6, and #7 are gas-fired boilers, as defined in 40 CFR §63.11237, that are located at or are part of an area source of HAP, as defined in §63.2. As such, these units 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. [40 CFR § 63.11195 (e)]

C. Emergency Generators #1, #2, #3, and #4, and Fire Pump #1

IDEXX operates four emergency generators, Generators #1, #2, #3, and #4. The emergency generators are generator sets (gen sets), each gen set consisting of an engine and an electrical generator. The emergency generators have engines rated at 4.88 MMBtu/hour, 2.68 MMBtu/hour, 5.85 MMBtu/hour, and 7.32 MMBtu/hour, respectively, all of which fire distillate fuel. The emergency generators were manufactured in 2009, 2002, 2007, and 2009, respectively.

IDEXX operates one fire pump, Fire Pump #1, which was manufactured in 1977. The fire pump has an engine rated at 1.68 MMBtu/hour and fires distillate fuel.

1. BACT/BPT Findings

The BACT/BPT emission limits for the generators and Fire Pump #1 are based on the following:

For generators rated at less than 600 hp (431 kW):

**Generator #2 and Fire Pump #1**

<u>Pollutant</u>	<u>Emission Factor</u>	<u>Source</u>
PM, PM <sub>10</sub>	0.12 lb/MMBtu	06-096 CMR 103
SO <sub>2</sub>	0.0015 lb/MMBtu	distillate fuel with a maximum sulfur content of 15 ppm (0.0015% by wt.)
NO <sub>x</sub>	4.41 lb/MMBtu	AP-42 Table 3.3-1 (10/96)
CO	0.95 lb/MMBtu	AP-42 Table 3.3-1 (10/96)
VOC	0.36 lb/MMBtu	AP-42 Table 3.3-1 (10/96)

For generators rated at 600 hp (431 kW) or greater:

**Generators #1, #3, and #4**

<u>Pollutant</u>	<u>Emission Factor</u>	<u>Source</u>
PM, PM <sub>10</sub>	0.12 lb/MMBtu	06-096 CMR 103
SO <sub>2</sub>	0.0015 lb/MMBtu	distillate fuel with a maximum sulfur content of 15 ppm (0.0015% by wt.)
NO <sub>x</sub>	3.2 lb/MMBtu	AP-42 Table 3.4-1 (10/96)
CO	0.85 lb/MMBtu	AP-42 Table 3.4-1 (10/96)
VOC	0.09 lb/MMBtu	AP-42 Table 3.4-1 (10/96)

The BACT/BPT emission limits for the generators are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Generators #1, #2, #3, and #4	PM	0.12

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Generator #1 (4.88 MMBtu/hr) Distillate fuel	0.59	0.59	0.007	15.62	4.15	0.44
Generator #2 (2.68 MMBtu/hr) Distillate fuel	0.32	0.32	0.004	11.82	2.55	0.96
Generator #3 (5.85 MMBtu/hr) Distillate fuel	0.70	0.70	0.009	18.72	4.97	0.53
Generator #4 (7.32 MMBtu/hr) Distillate fuel	0.88	0.88	0.011	23.42	6.22	0.66
Fire Pump #1 (1.68 MMBtu/hr) Distillate fuel	0.20	0.20	0.003	7.41	1.43	0.60

Visible emissions from each of the distillate fuel-fired emergency generators and from Fire Pump #1 shall not exceed 20% opacity on a six-minute block average, except for no more than two six-minute block averages in a three-hour period.

2. Definition: Emergency Stationary Reciprocating Internal Combustion Engine

Federal regulations which may be applicable to one or more of the above identified generators and engines are NSPS 40 CFR Part 60, Subpart IIII for compression ignition units, and NESHAP 40 CFR Part 63, Subpart ZZZZ. The NSPS subpart provides a definition for Emergency stationary internal combustion engines (ICE), and the NESHAP subpart provides a definition for emergency stationary reciprocating internal combustion engines (RICE). With the exception of the acronyms ICE vs. RICE, the definitions are identical, as provided here. [40 CFR Part 60, Subpart IIII at 40 CFR §60.4211(f) and §60.4219; 40 CFR Part 63, Subpart ZZZZ]

*Emergency stationary ICE or emergency stationary RICE* is any stationary reciprocating internal combustion engine that meets all of the following criteria:

- a. 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.
- b. Paragraph (a) 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:
  - (1) 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.
  - (2) 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*, 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.
  - (3) Periods where there is a deviation of voltage or frequency of 5% or greater below standard voltage or frequency.
- c. Paragraphs (a) and (b) 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 as provided in paragraph (b) 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:

- (1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (2) 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.
- (3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission, or local standards or guidelines.
- (4) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (5) 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.

3. NSPS: 40 CFR Part 60, Subpart IIII: Generators #1, #3, and #4

The federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, is applicable to Emergency Generators #1, #3, and #4 since the units were ordered after July 11, 2005, and manufactured after April 1, 2006. By meeting the requirements of Subpart IIII, the units also meet the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ.

**40 CFR Part 60, Subpart IIII Requirements**

a. Manufacturer Certification Requirement

IDEXX's Generators #1, #3, and #4 subject to this Subpart 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)]

b. Ultra-Low Sulfur Diesel Fuel Requirement

The distillate fuel fired in the generators shall not exceed 15 ppm sulfur (0.0015% sulfur by weight), except that any existing distillate fuel purchased (or otherwise

obtained) prior to October 1, 2010, may be used until depleted.  
[40 CFR §60.4207(b)]

c. Non-Resetable Hour Meter Requirement

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

d. Operation and Maintenance Requirements

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

e. Annual Time Limit for Maintenance and Testing

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

f. Initial Notification Requirement

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

g. Recordkeeping

IDEXX shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours operated for emergency purposes, including what classified the situation as emergency, and the number of hours operated for non-emergency purposes. If the generators 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 as specified in 40 CFR §60.4211(f)(3)(i), IDEXX shall keep records of the notification of the emergency situation, and the date, start time, and end time of each generator operation for these purposes. [40 CFR §60.4214(b)]

h. Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year (for Generators #1, #3, and #4, each of which is greater than 100 brake hp)

If IDEXX 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 for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in 40 CFR §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 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), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://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)]

4. NESHAP: 40 CFR Part 63, Subpart ZZZZ: Generator #2 and Fire Pump #1

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines*, is applicable to Generator #2 and Fire Pump #1. The units are considered existing, emergency stationary reciprocating internal combustion engines at an area HAP source and are not subject to New Source Performance Standards regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt these units from the federal requirements.

Generator #2 and Fire Pump #1 shall be limited to the usage outlined in 40 CFR §63.6640(f) and therefore may be classified as existing emergency stationary RICE as defined in 40 CFR Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in 40 CFR §63.6640(f) may cause any of these engines to not be considered an emergency engine and therefore subject to all the requirements for a non-emergency engine.

**40 CFR Part 63, Subpart ZZZZ Requirements**

a. Operation and Maintenance Requirements

	<b>Operating Limitations (40 CFR §63.6603(a) and Table 2(d))</b>
Compression ignition (diesel, fuel oil) units:  <b>Generator #2</b> <b>Fire Pump #1</b>	- Change oil and filter every 500 hours of operation or annually, whichever comes first; - Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Each generator shall be operated and maintained according to the manufacturer's emission-related written instructions, or IDEXX shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of each engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

b. Optional Oil Analysis Program

IDEXX has the option of utilizing an oil analysis program which complies with the requirements of 40 CFR §63.6625(i) in order to extend the specified oil change requirement. If this option is used, IDEXX must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engines. [40 CFR §63.6625(i)]

c. Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each generator and engine. [40 CFR §63.6625(f)]

d. Startup Idle and Startup Time Minimization Requirements

During periods of startup, the facility must minimize each engine's time spent at idle and minimize each engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR §63.6625(h) and 40 CFR Part 63, Subpart ZZZZ Table 2d]

e. Annual Time Limit for Maintenance and Testing

Each generator and engine shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations. (This does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in 40 CFR §63.6640(f)(4)(ii) are met.) [40 CFR §63.6640(f)]

f. Recordkeeping Requirements

IDEXX shall keep records that include maintenance conducted on each generator and engine and the hours of operation of each unit recorded through its non-resettable hour meter. Documentation for each unit shall include the number of hours spent for emergency operation, including what classified the operation as emergency, and the number of hours spent for non-emergency. If a 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 40 CFR §63.6640(f)(4)(ii), IDEXX shall keep records of the notification of the emergency situation, and the date, start time, and end time of operation for these purposes. [40 CFR §63.6655(e) and (f)]

g. Requirements for Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)

If IDEXX 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 40 CFR §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in 40 CFR §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent 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), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://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 §63.6650(h)]

D. Annual Emissions

1. Total Annual Emissions

IDEXX shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on 150,000,000 scf/year of natural gas combined firing in Boilers #3, #6, and #7 and 100 hours/year of operation for the generators and fire pump engine:

**Total Licensed Annual Emissions for the Facility**

**Tons/year**

(used to calculate the annual license fee)

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Boilers #3, #6, and #7	3.8	3.8	0.1	7.5	6.3	0.41
Generator #1	0.6	0.6	negligible	0.8	0.2	0.02
Generator #2	0.3	0.3		0.6	0.1	0.05
Generator #3	0.7	0.7		0.9	0.3	0.03
Generator #4	0.9	0.9		0.1	0.3	0.03
Fire Pump #1	0.2	0.2		0.4	0.1	0.03
<b>Total TPY</b>	<b>6.5</b>	<b>6.5</b>	<b>0.1</b>	<b>10.3</b>	<b>7.3</b>	<b>0.6</b>

## 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<sub>2</sub>e).

The quantity of CO<sub>2</sub>e 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

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 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 <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	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-572-71-J-R subject to the following conditions.

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

**STANDARD CONDITIONS**

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.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 conduct the following:
  - 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 #3, #6, and #7**

**A. Fuel**

1. Total fuel use for Boilers #3, #6, and #7 shall not exceed 150,000,000 scf of natural gas on a 12-month rolling total basis. [06-096 CMR 115, BPT]
2. 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 shall not exceed the following:**

<b>Emission Unit</b>	<b>Pollutant</b>	<b>lb/MMBtu</b>	<b>Origin and Authority</b>
Boilers #3, #6, #7	PM	0.05	06-096 CMR 115, BPT

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

<b>Natural Gas- Fired Unit</b>	<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>SO<sub>2</sub> (lb/hr)</b>	<b>NO<sub>x</sub> (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>VOC (lb/hr)</b>
Boiler #3 (6.3 MMBtu/hr)	0.31	0.31	0.01	0.62	0.52	0.03
Boiler #6 (16.7 MMBtu/hr)	0.84	0.84	0.01	1.67	1.41	0.09
Boiler #7 (16.7 MMBtu/hr)	0.84	0.84	0.01	1.67	1.41	0.09

Visible emissions from Boiler #3 and from the combined stack serving Boilers #6 and #7 shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a continuous three-hour period. [06-096 CMR 101]

- D. IDEXX shall comply with all requirements of 40 CFR Part 60, Subpart Dc applicable to Boilers #6 and #7, including recording and maintaining records of the amount of fuel combusted during each calendar month. [40 CFR Part 60, Subpart Dc §60.48c (g)(2)]**

**(17) Generators and Engines**

- A. Generator #1, Generator #2, Generator #3, Generator #4, and Fire Pump #1 shall each be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. **There is no time limit on the use of these emergency engines in emergency situations.** [06-096 CMR 115, BPT]**
- B. The fuel sulfur content of the distillate fuel fired in the emergency generators and the fire pump engine 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]

- C. Emissions from Generators #1, #2, #3, and #4 and from Fire Pump #1 shall not exceed the following: [06-096 CMR 115, BPT]

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generators #1, #2, #3, and #4	PM	0.12	06-096 CMR 103

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1 (4.88 MMBtu/hr) Distillate fuel	0.59	0.59	0.007	15.62	4.15	0.44
Generator #2 (2.68 MMBtu/hr) Distillate fuel	0.32	0.32	0.004	11.82	2.55	0.96
Generator #3 (5.85 MMBtu/hr) Distillate fuel	0.70	0.70	0.009	18.72	4.97	0.53
Generator #4 (7.32 MMBtu/hr) Distillate fuel	0.88	0.88	0.011	23.42	6.22	0.66
Fire Pump #1 (1.68 MMBtu/hr) Distillate fuel	0.20	0.20	0.003	7.41	1.43	0.60

D. Visible Emissions

Visible emissions from each of the distillate fuel-fired emergency generators and engines shall not exceed 20% opacity on a six-minute block average, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101 (2)(B)(1)(d)]

E. Subpart III Requirements for Generators #1, #3, and #4

The emergency generators **Generator #1**, **Generator #3**, and **Generator #4** shall meet the applicable requirements of 40 CFR Part 60, Subpart III, including the following:

1. Manufacturer Certification Requirement

IDEXX's generators subject to this Subpart 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 Diesel Fuel Requirement

The distillate fuel fired in the generators and fire pump engines shall not exceed 15 ppm sulfur (0.0015% sulfur by weight), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR §60.4207(b) and 06-096 CMR 115, BPT]

3. Non-Resettable Hour Meter Requirement

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

4. Operation and Maintenance Requirements

The generators and engines 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. IDEXX 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 and engines shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations. This does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met. [40 CFR §60.4211(f) and 06-096 CMR 115, BPT]

6. Recordkeeping

IDEXX shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours operated for emergency purposes, including what classified the situation as emergency, and the number of hours operated for non-emergency purposes. If a 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 40 CFR §60.4211(f)(3)(i), IDEXX shall keep records of the notification of the emergency situation, and the date, start time, and end time of each generator operation for these purposes. [40 CFR §60.4214(b)]

7. Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year (for Generators #1, #3, and #4, each of which is greater than 100 brake hp)

If IDEXX 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 for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 CFR §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in 40 CFR §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 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), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://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)]

F. NESHAP 40 CFR Part 63, Subpart ZZZZ Requirements for Generator #2 and Fire Pump #1

Emergency Generator #2 and the fire pump engine Fire Pump #1 shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:

1. Operation and Maintenance Requirements

IDEXX shall meet the following operational limitations for Generator #2 and Fire Pump #1:

- a. Change the oil and filter annually,
- b. Inspect the air cleaner annually and replace as necessary, and
- c. Inspect the hoses and belts annually and replace as necessary.

A log shall be maintained documenting compliance with these requirements.

[40 CFR §63.6603(a) and Table 2(d); and 06-096 CMR 115]

Generator #2 and Fire Pump #1 shall be operated and maintained according to the manufacturer's emission-related written instructions, or IDEXX shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of each engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

2. Optional Oil Analysis Program

IDEXX has the option of utilizing an oil analysis program which complies with the requirements of 40 CFR §63.6625(i) in order to extend the specified oil change requirement. If this option is used, IDEXX must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engines. [40 CFR §63.6625(i)]

3. Non-Resetable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each generator and engine. [40 CFR §63.6625(f)]

4. Startup Idle and Startup Time Minimization Requirements

During periods of startup, the facility must minimize each engine's time spent at idle and minimize each engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR §63.6625(h) and 40 CFR Part 63, Subpart ZZZZ Table 2d]

5. Annual Maintenance and Testing Time Limits

Generator #2 and Fire Pump #1 shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations. This does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in 40 CFR §63.6640(f)(4)(ii) are met. [40 CFR §63.6640(f) and 06-096 CMR 115]

6. Recordkeeping Requirements

IDEXX shall keep records that include maintenance conducted on each generator and engine and the hours of operation of each unit recorded through its non-resettable hour meter. Documentation for each unit shall include the number of hours operated for emergency purposes, including what classified the situation as emergency, and the number of hours of non-emergency operation. If a 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 40 CFR §63.6640(f)(4)(ii), IDEXX shall keep records of the notification of the emergency situation, and the date, start time, and end time of operation for these purposes. [40 CFR §63.6655(e) and (f)]

7. Requirements for Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)

If IDEXX 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 40 CFR §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in 40 CFR §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent 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

IDEXX Laboratories, Inc.  
Cumberland County  
Westbrook, Maine  
A-572-71-J-R (SM)

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Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://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 §63.6650(h)]

- (18) IDEXX 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 22 DAY OF May, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Marie 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 renewal application, determined as complete 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 license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 13, 2015

Date of application acceptance: March 16, 2015

Date filed with the Board of Environmental Protection:

This Order prepared by Jane E. Gilbert, Bureau of Air Quality.

