



DEPARTMENT ORDER

Abbott Diagnostics Scarborough, Inc.
Cumberland County
Westbrook, Maine
A-1161-71-B-A

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

FINDINGS OF FACT

After review of the air emission license amendment application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Abbott Diagnostics Scarborough, Inc. (Abbott) was issued Air Emission License A-1161-71-A-N on March 4, 2022, for the operation of emission sources associated with their medical test kit manufacturing facility.

Abbott has requested an amendment to their license in order to revise the specifications of the emergency generators and their corresponding stack height requirements.

The equipment addressed in this license amendment is located at 5 Bradley Drive, Westbrook, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license amendment:

Stationary Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (HP)	Fuel Type, % sulfur	Firing Rate	Date of Manuf.	Date of Install.	Stack #
Generator A1	9.95	1,468	natural gas, neg.	9,750 scf/hr	2020	2022	G1
Generator A2	9.95	1,468	natural gas, neg.	9,750 scf/hr	2020	2022	G2
Generator B1	9.95	1,468	natural gas, neg.	9,750 scf/hr	2020	2022	G3

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (HP)	Fuel Type, % sulfur	Firing Rate	Date of Manuf.	Date of Install.	Stack #
Generator B2	9.95	1,468	natural gas, neg.	9,750 scf/hr	2020	2022	G4
Generator D1	9.95	1,468	natural gas, neg.	9,750 scf/hr	2020	2022	G5
Generator D2	9.95	1,468	natural gas, neg.	9,750 scf/hr	2020	2022	G6
Generator Diesel	7.74	1,170	distillate fuel, 0.0015%	56.5 gal/hr	1999	1999	G7

Note: The maximum input capacity (MMBtu/hr) and the corresponding fuel firing rate for each of the generators in the table above have been updated in this license amendment.

C. Definitions

Distillate Fuel means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) 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.

Records or Logs mean either hardcopy or electronic records.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the date this license was issued.

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

Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emission Levels
PM	1.7	1.6	-0.1	100
PM ₁₀	1.7	1.6	-0.1	100

Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emission Levels
SO ₂	0.1	0.1	0.0	100
NO _x	8.8	6.6	-2.2	100
CO	5.1	4.3	-0.8	100
VOC	0.7	0.6	-0.1	50*

*Abbott is located in an area of the state included in the Ozone Transport Region. Therefore, the significant emission level for VOC is 50 tpy.

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

E. Facility Classification

With the annual operating hours restriction on the emergency generators, the facility is licensed as follows:

- As a synthetic minor source of air emissions for NO_x, because Abbott is subject to license restrictions that keep facility emissions below major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for 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 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

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

B. Emergency Generators

Abbott will operate Generators A1, A2, B1, B2, D1, D2, and Diesel as emergency generators. The emergency generators are generator sets with each gen set consisting of an engine and an electrical generator. Though previously licensed in 2022 (A-1161-71-A-N, March 4, 2022), the specifications for the generators installed at the Abbott facility have been revised to reflect the actual installed units. Generators A1, A2, B1, B2, D1, and D2 each have engines rated at 9.95 MMBtu/hr each, which fire natural gas and were

manufactured in 2020. Generator Diesel has an engine rated at 7.74 MMBtu/hr which fires distillate fuel and was manufactured in 1999.

The BACT analysis provided for the above engines in A-1161-71-A-N is unchanged, as the only specifications of the engines that has changed is the firing rate of the engines.

1. BACT Findings

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

a. Generators A1, A2, B1, B2, D1, and D2:

PM/PM ₁₀	0.05 lb/MMBtu from 06-096 C.M.R. ch. 115, BACT
SO ₂	5.88E-4 lb/MMBtu from AP-42 Table 3.2-2 dated 7/00
NO _x	0.847 lb/MMBtu from AP-42 dated Table 3.2-2 7/00
CO	0.557 lb/MMBtu from AP-42 dated Table 3.2-2 7/00
VOC	0.118 lb/MMBtu from AP-42 dated Table 3.2-2 7/00
Visible Emissions	06-096 C.M.R. ch. 115, BACT

b. Generator Diesel:

PM/PM ₁₀	- 0.12 lb/MMBtu from 06-096 C.M.R. ch. 103
SO ₂	- combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	- 3.2 lb/MMBtu from AP-42 Table 3.4-1 dated 10/96
CO	- 0.85 lb/MMBtu from AP-42 Table 3.4-1 dated 10/96
VOC	- 0.09 lb/MMBtu from AP-42 Table 3.4-1 dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 101

2. The revised BACT emission limits for the generators are the following:

Unit	Pollutant	lb/MMBtu
Generator A1	PM	0.05
Generator A2	PM	0.05
Generator B1	PM	0.05
Generator B2	PM	0.05
Generator D1	PM	0.05
Generator D2	PM	0.05
Generator Diesel	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 A1	0.50	0.50	0.01	8.43	5.54	1.17
Generator A2	0.50	0.50	0.01	8.43	5.54	1.17
Generator B1	0.50	0.50	0.01	8.43	5.54	1.17
Generator B2	0.50	0.50	0.01	8.43	5.54	1.17
Generator D1	0.50	0.50	0.01	8.43	5.54	1.17
Generator D2	0.50	0.50	0.01	8.43	5.54	1.17
Generator Diesel	0.93	0.93	0.01	24.77	6.58	0.70

3. Visible Emissions

No changes are being made to the visible emission limits as denoted in Air Emission License A-1161-71-A-N.

4. Chapter 169

Generators A1, A2, B1, B2, D1, D2, and Diesel were licensed prior to the effective date of *Stationary Generators*, 06-096 C.M.R. ch. 169 and are therefore exempt from this rule pursuant to section 3(B).

C. Additional Generator Requirements

Abbott noted in this amendment application that there are operating restrictions in place that limit cumulative emissions from the generators that were not previously addressed in their air emission license. The natural gas fired generators A1 and A2, B1 and B2, and D1 and D2 operate as redundant pairs and, as such, do not operate at the same time.

The Department has determined that restricting simultaneous operation of the generator pairs, so that only one of each pair operates at a time in combination with restricting the hours of operation of all generators combined such that annual emissions of NO_x do not exceed 25 tons/year, is an acceptable alternative to requiring the exhaust stacks of these generators to meet 60% of GEP stack height as a method to ensure compliance with ambient air quality standards. Therefore, the Department has added generator operating restrictions and removed the stack height requirements with this license amendment.

Abbott is required to track the operating hours of Generators A1, A2, B1, B2, D1, D2, and the Generator Diesel on a monthly and a 12-month rolling total basis and multiply the operating hours by the hourly NO_x emission limit defined for each generator in the above sections to determine the total actual NO_x emissions for that time period. The total NO_x emissions from all these generators combined shall not exceed 25 tons/year.

Note: The NO_x potential to emit (PTE) for the facility is identified as 6.6 tons/year in this license amendment (see table on p.6) based in part on each emergency generator

operating for 100 hours/year. However, the hours of emergency operation are not limited by this license or by federal regulation. Therefore, actual NO_x emissions from the facility may exceed 6.6 tons/year. Further, emissions of NO_x above 25 tons/year would trigger annual emissions inventory reporting requirements of 06-069 C.M.R. ch. 137.

With the revised specifications, operating restrictions, and annual NO_x emissions limit placed on the generator engines, the Department finds that stack height requirements contained in Air Emission License A-1161-71-A-N are not necessary to assure compliance with National Ambient Air Quality Standards and as such will be removed from the license with this license amendment.

D. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on the following assumptions:

- Operating Generators A1, A2, B1, B2, D1, D2, and the Generator Diesel for 100 hrs/yr each;
- Operating the boilers for 8,760 hr/yr each.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

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
Boiler #1	0.54	0.54	0.01	1.04	0.88	0.06
Boiler #2	0.54	0.54	0.01	1.04	0.88	0.06
Boiler #3	0.32	0.32	0.00	0.63	0.53	0.03
Generator A1	0.03	0.03	0.00	0.43	0.28	0.06
Generator A2	0.03	0.03	0.00	0.43	0.28	0.06
Generator B1	0.03	0.03	0.00	0.43	0.28	0.06
Generator B2	0.03	0.03	0.00	0.43	0.28	0.06
Generator D1	0.03	0.03	0.00	0.43	0.28	0.06
Generator D2	0.03	0.03	0.00	0.43	0.28	0.06
Generator Diesel	0.05	0.05	0.00	1.24	0.33	0.03
Total TPY	1.6	1.6	0.1	6.6	4.3	0.6

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

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 C.M.R. ch. 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 amendment.

This determination is based on information provided by the applicant regarding the expected construction and operation of the proposed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.) deviates from what was included in the application, the Department may require Abbott to submit additional information and may require an ambient air quality impact analysis at that time.

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 Amendment A-1161-71-B-A subject to the conditions found in Air Emission License A-1161-71-A-N and the following conditions.

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

SPECIFIC CONDITIONS

The following shall replace Specific Conditions (18)(B), (18)(E), and (19) of Air Emission License A-1161-71-A-N.

(18) Emergency Generators

- B. Each generator of the pairs A1/A2, B1/B2, and D1/D2 shall not operate at the same time as its corresponding backup unit. Records shall be maintained demonstrating compliance with this requirement. [06-096 C.M.R. ch. 115, BPT]
- E. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator A1	0.50	0.50	0.01	8.43	5.54	1.17
Generator A2	0.50	0.50	0.01	8.43	5.54	1.17
Generator B1	0.50	0.50	0.01	8.43	5.54	1.17
Generator B2	0.50	0.50	0.01	8.43	5.54	1.17
Generator D1	0.50	0.50	0.01	8.43	5.54	1.17
Generator D2	0.50	0.50	0.01	8.43	5.54	1.17
Generator Diesel	0.93	0.93	0.01	24.77	6.58	0.70

(19) Total Generator NO_x Emissions

- A. Abbott shall track the operating hours of Generators A1, A2, B1, B2, D1, D2, and the Generator Diesel on a monthly and a 12-month rolling total basis and multiply the operating hours by the hourly NO_x emission limit defined for each generator in the above sections to determine the total actual NO_x emissions for that time period. [06-096 C.M.R. ch. 115. BPT]
- B. Abbott shall limit the calculated emissions of NO_x from Generators A1, A2, B1, B2, D1, D2, and the Generator Diesel combined, to 25 tons/year on a 12-month rolling total basis.

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**Departmental
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The following is a new condition of Air Emission License A-1161-71-A-N.

- (22) If the Department determines that any parameter value pertaining to construction and operation of the proposed emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, Abbott may be required to submit additional information. Upon written request from the Department, Abbott shall provide information necessary to demonstrate AAQS will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter.
[06-096 C.M.R. ch. 115, § 2(O)]

DONE AND DATED IN AUGUSTA, MAINE THIS 7th DAY OF NOVEMBER, 2022.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for
MELANIE LOYZIM, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-1161-71-A-N.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 10/3/22

Date of application acceptance: 10/4/22

Date filed with the Board of Environmental Protection:

This Order prepared by Chris Ham, Bureau of Air Quality.

