



DEPARTMENT ORDER

**Maine Air National Guard
 Penobscot County
 Bangor, Maine
 A-627-71-K-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

The Maine Air National Guard (Air Guard) has requested a minor modification to their license in order to document changes to their equipment roster, including the removal of obsolete equipment, physical modifications made to existing equipment, and the updating of specifications for existing equipment. In addition, they have asked to have the emissions from their de-icing operations reevaluated, using historical annual quantities of de-icing fluid applied at their facility as the basis for the calculations to demonstrate that this activity is insignificant by rule. Finally, the Air Guard has standardized the naming convention for their equipment and wish to update the air license to reflect the new equipment names.

The equipment addressed in this license amendment is located at 105 MAINEiac Avenue, Suite 510 in Bangor, Maine.

B. Emission Equipment

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

Boilers Converted to Natural Gas

Existing Equipment Name	Proposed Equipment Name	New Max. Capacity (MMBtu/hr)	New Maximum Firing Rate (scfm)	Date of Manuf.	Date Converted	Stack #
AEI-L-486-2	AEI-B-486-2	1.10	1080	2016	2019	AEI-B-486-2S
AEI-L-510-1	AEI-B-510-1	1.10	1080	2004	2019	AEI-B-510-1S
AEI-L-510-2	AEI-B-510-2	1.10	1080	2004	2019	AEI-B-510-2S
AEI-L-515-1	AEI-B-515-1	1.21	1187	2008	2019	AEI-B-515-1S
AEI-L-515-2	AEI-B-515-2	1.21	1187	2008	2019	AEI-B-515-2S
AEI-L-518-1	AEI-B-518-1	1.10	1080	2016	2019	AEI-B-518-1S
AEI-L-518-2	AEI-B-518-2	1.10	1080	2016	2019	AEI-B-518-2S
AEI-L-542-1	AEI-B-542-1	4.24	4157	1994	2019	AEI-B-542-1S

Distillate Fuel-Fired Generators and Fire Pumps with Updated Specifications

Current Equipment Name	Proposed Equipment Name	Max. Input Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Maximum Engine Capacity (HP)	Rated Output Capacity (kW)	Date of Manufacture / Install.
AEI-L-003	AEI-FP-S-1	3.64	26.00	500	Fire Pump	1993/1994
AEI-L-004	AEI-FP-S-2	3.64	26.00	500	Fire Pump	1993/1994
AEI-L-005	AEI-FP-S-3	1.83	13.08	208	Fire Pump	1993/1994
AEI-L-101	AEI-G-S-416-1	0.80	5.71	111	60	2010/2011
AEI-L-102	AEI-G-S-417-1	2.43	17.38	331	200	2010/2011
AEI-L-104	AEI-G-S-423-1	1.11	7.90	111	100	2010/2011
AEI-L-106	AEI-G-S-486-1	0.80	5.71	111	60	2010/2011
AEI-L-107	AEI-G-S-488-1	1.52	10.87	180	150	2003 / N/A
AEI-L-108	AEI-G-S-489-1	0.80	5.71	111	60	2010/2011
AEI-L-110	AEI-G-S-493-1	3.18	22.70	480	300	2010/2014
AEI-L-111	AEI-G-S-499-1	7.50	53.60	1141	750	2011/2012
AEI-L-112	AEI-G-S-505-1	1.11	7.90	111	100	2010/2012
AEI-L-113	AEI-G-S-510-1	5.03	35.90	560	350	1986/1986
AEI-L-114	AEI-G-S-510-2	5.03	35.90	560	350	1986/1986
AEI-L-115	AEI-G-S-512-1	1.52	10.87	180	125	2000/2001
AEI-L-116	AEI-G-S-514-1	1.90	13.57	269	150	1997/1998
AEI-L-117	AEI-G-S-515-1	1.82	13.01	227	100	2008/2009
AEI-L-118	AEI-G-S-518-1	5.52	39.40	749	500	1998/1999
AEI-L-120	AEI-G-S-536-1	0.80	5.71	111	60	2010/2011
AEI-L-123	AEI-G-S-542-1	1.11	7.90	111	100	2010/2011
AEI-L-125	AEI-G-S-513-1	0.71	5.08	132	60	2012/2014
AEI-L-126	AEI-G-S-541-1	0.71	5.08	132	60	2012/2014
AEI-L-127	AEI-G-S-525-1	3.18	22.70	480	300	2013/2014
AEI-L-128	AEI-G-S-491-1	0.69	4.96	99	60	2015
AEI-L-129	AEI-G-S-540-1	0.57	4.10	69	30	2014

No physical changes or modifications have been made to the engines or emission controls for these generators or fire pumps from their original licensed design. The updated specifications for the generator engines are based on information and calculations performed by the Air Guard using actual engine design criteria.

The equipment listed above is also shown with its new name, as proposed by the Air Guard. All future references to this equipment in this air emission license amendment will be made using the new equipment names.

2. Equipment Being Removed from the Facility

The following equipment has been removed from the facility. Their emissions will not be factored into the annual licensed totals, and this equipment will no longer be addressed in the facility's air emission license.

Boilers Removed from Facility

Equipment Name	Max. Capacity (MMBtu/hr)	Fuel Type	Maximum Firing Rate (gal/hr)	Date of Manufacture / Install	Date Removed
AEI-L-416-1	1.81	Distillate Fuel	13.2	1989 / 1989	2019
AEI-L-417-1	1.81	Distillate Fuel	13.2	1985 / 1986	2019
AEI-L-417-2	4.80	Distillate Fuel	35.0	1986 / 1986	2019
AEI-L-423-1	1.78	Distillate Fuel	13.0	1998 / 1998	2019
AEI-L-488-1	1.36	Propane	14.9	1994 / 1994	2019
AEI-L-488-2	1.00	Propane	10.6	1995 / 1995	2019
AEI-L-488-3	1.00	Propane	10.6	1995 / 1995	2019
AEI-L-488-4	1.00	Propane	10.6	1995 / 1995	2019
AEI-L-489-1	1.37	Distillate Fuel	10.0	1986 / 1986	2019
AEI-L-491-1	1.37	Distillate Fuel	10.0	1998 / 1999	2019
AEI-L-512-1	1.78	Distillate Fuel	13.0	2001 / 2001	2019
AEI-L-513-1	2.71	Distillate Fuel	19.8	1986 / 1986	2019
AEI-L-541-1	1.51	Distillate Fuel	11.0	1991 / 1993	2019

Generators Removed from Facility

Equipment Name	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (HP)	Fuel Type	Maximum Firing Rate (gal/hr)	Date of Manufacture / Install	Date Removed
AEI-L-002	3.67	100	Distillate Fuel	26.8	1984 / 1984	2019
AEI-L-019	0.77	60	Distillate Fuel	5.6	2003 / 2003	2019
AEI-L-105	0.84	17	Distillate Fuel	6.1	2006 / 2007	2019
AEI-L-109	0.96	80	Distillate Fuel	7.0	1986 / 2000	2019
AEI-L-121	0.53	35	Distillate Fuel	3.9	2003 / 2003	2019

3. Portable Generators

The Air Guard may operate portable engines used for maintenance or emergency-only purposes. These engines are considered insignificant activities and are not required to be included in this license. However, they may still be subject to applicable State and Federal regulations.

The generators shown in the following table were included in air emission license A-627-71-J-R/A, and their emissions are factored into the annual licensed totals. However, the Air Guard has recently reported that these generators are portable and that they are used for emergency-only purposes. Therefore, going forward these generators will be characterized as insignificant activities and shall no longer be included in the facility's air emission license.

Portable Generators

Equipment Name	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Fuel Type	Maximum Firing Rate (gal/hr)	Date of Manufacture / Install.	Date Reclassified
AEI-L-033	0.55	84	Distillate Fuel	4.0	1987 / 2014	2019
AEI-L-034	0.77	84	Distillate Fuel	5.6	1998 / 1998	2019
AEI-L-043	0.77	60	Distillate Fuel	5.6	2007 / 2007	2019

4. Insignificant Equipment

The Air Guard may operate small stationary engines smaller than 0.5 MMBtu/hr. These engines are considered insignificant activities and are not required to be included in this license. However, they are still subject to applicable State and Federal regulations. More information regarding requirements for small stationary engines is available on the Department's website at the link below.

<http://www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf>

Updated specifications for generator AEI-L-124 have been provided by the Air Guard. Evaluation of the updated specifications results in generator AEI-L-124 being redefined as insignificant based on size, per 06-096 C.M.R. ch. 115, Appendix B, (B)(3). As such it will be removed from the air emission license and not addressed further in this license amendment.

Insignificant Generator

Current Equipment Name	Fuel Type	Max. Input Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Rated Output Capacity (kW)	Date of Manufacture / Install.
AEI-L-124	Distillate Fuel	0.15	1.52	18	2006/2006

C. Comprehensive Equipment Roster

The table below is being included in this amendment to provide one comprehensive, updated list of all of the licensed emission equipment located at the Air Guard facilities in Bangor.

Licensed Fuel Burning Equipment Located at the Air Guard			
Boilers and Heaters			
New Name	Max Heat Input, MMBtu/hr	Type of Fuel	Max Firing Rate
AEI-B-420-1	1.23	Natural Gas	1230 scfm
AEI-B-486-2	1.10	Natural Gas	1080 scfm
AEI-B-493-1	1.00	Natural Gas	1000 scfm
AEI-B-493-2	1.00	Natural Gas	1000 scfm
AEI-B-499-1	4.00	Natural Gas	4000 scfm
AEI-B-499-2	4.00	Natural Gas	4000 scfm
AEI-B-499-3	4.00	Natural Gas	4000 scfm
AEI-B-499-W1	1.50	Natural Gas	1500 scfm
AEI-B-510-1	1.10	Natural Gas	1080 scfm
AEI-B-510-2	1.10	Natural Gas	1080 scfm
AEI-B-515-1	1.21	Natural Gas	1187 scfm
AEI-B-515-2	1.21	Natural Gas	1187 scfm
AEI-B-518-1	1.10	Natural Gas	1080 scfm
AEI-B-518-2	1.10	Natural Gas	1080 scfm
AEI-B-532-1	2.77	Distillate Fuel	19.8 gal/hr
AEI-B-542-1	4.24	Natural Gas	4157 scfm
Generators and Fire Pumps			
AEI-FP-S-1	3.64	Distillate Fuel	26.0 gal/hr
AEI-FP-S-2	3.64	Distillate Fuel	26.0 gal/hr
AEI-FP-S-3	1.83	Distillate Fuel	13.1 gal/hr
AEI-G-S-416-1	0.80	Distillate Fuel	5.7 gal/hr
AEI-G-S-417-1	2.43	Distillate Fuel	17.4 gal/hr
AEI-G-S-423-1	1.11	Distillate Fuel	7.9 gal/hr
AEI-G-S-486-1	0.80	Distillate Fuel	5.7 gal/hr
AEI-G-S-488-1	1.52	Distillate Fuel	10.9 gal/hr
AEI-G-S-489-1	0.80	Distillate Fuel	5.7 gal/hr
AEI-G-S-491-1	0.69	Distillate Fuel	5.0 gal/hr
AEI-G-S-493-1	3.18	Distillate Fuel	22.7 gal/hr
AEI-G-S-499-1	7.50	Distillate Fuel	53.6 gal/hr
AEI-G-S-505-1	1.11	Distillate Fuel	7.9 gal/hr
AEI-G-S-510-1	5.03	Distillate Fuel	35.9 gal/hr
AEI-G-S-510-2	5.03	Distillate Fuel	35.9 gal/hr
AEI-G-S-512-1	1.52	Distillate Fuel	10.9 gal/hr
AEI-G-S-513-1	0.71	Distillate Fuel	5.1 gal/hr
AEI-G-S-514-1	1.90	Distillate Fuel	13.6 gal/hr
AEI-G-S-515-1	1.82	Distillate Fuel	13.0 gal/hr
AEI-G-S-518-1	5.52	Distillate Fuel	39.4 gal/hr
AEI-G-S-525-1	3.18	Distillate Fuel	22.7 gal/hr
AEI-G-S-536-1	0.80	Distillate Fuel	5.7 gal/hr
AEI-G-S-540-1	0.57	Distillate Fuel	4.1 gal/hr
AEI-G-S-541-1	0.71	Distillate Fuel	5.1 gal/hr
AEI-G-S-542-1	1.11	Distillate Fuel	7.9 gal/hr

D. Definitions

Portable Engine. For the purposes of this license, *portable engine* means an internal combustion engine which is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. This definition does NOT include engines which remain or will remain at a location (excluding storage locations) for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

E. Application Classification

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

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:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Emission Levels</u>
PM	2.3	2.3	0.0	100
PM ₁₀	2.3	2.3	0.0	100
SO ₂	0.1	0.1	0.0	100
NO _x	6.3	15.1	8.8	100
CO	2.8	5.0	2.2	100
VOC	30.0	2.8	-27.2	50
CO ₂ e	--	--	0.0	100,000

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

F. Facility Classification

With the annual fuel limit on the boilers and heaters and the operating hours restriction on the emergency generators and fire pumps, the facility is licensed as follows:

- As a synthetic minor source of air emissions, because the licensed emissions are below the 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. Boilers AEI-B-486-2, AEI-B-510-1, AEI-B-510-2, AEI-B-515-1, AEI-B-515-2, AEI-B-518-1, AEI-B-518-2, and AEI-B-542-1

Boilers AEI-B-486-2, AEI-B-510-1, AEI-B-510-2, AEI-B-515-1, AEI-B-515-2, AEI-B-518-1, AEI-B-518-2, and AEI-B-542-1 have already been converted from firing distillate fuel to firing natural gas. All of these boilers have maximum heat input capacities of less than 10 MMBtu/hr.

1. BACT Analysis

a. Particulate Matter: PM / PM₁₀

Particulate matter emissions from natural gas-fired boilers of this size are generally controlled through their proper operation and maintenance and by the use of good combustion practices. The Department finds that BACT for PM / PM₁₀ emissions from these boilers shall be the firing of natural gas, the use of good combustion practices, the proper operation and maintenance of the boilers, and the emission limits identified in the following tables.

b. Sulfur Dioxide: SO₂

SO₂ emissions from boilers are directly related to the sulfur content of the fuel being fired and the quantity of fuel combusted. These boilers all fire natural gas exclusively. Because natural gas is inherently low in sulfur content, the BACT determination for SO₂ for natural gas-fired boilers is for them to fire natural gas exclusively, proper operation and maintenance, and the emission limits identified in the following tables.

c. Nitrogen Oxides: NO_x

Potentially available control options for reducing NO_x emissions from existing natural gas-fired boilers include low NO_x burners, selective catalytic reduction (SCR), and non-selective catalytic reduction (NSCR). SCR and NSCR are add-on controls that can require significant investment and space for installation.

The Department finds that add-on controls are not economically feasible for NO_x emissions for the licensed natural gas-fired boilers at the Air Guard based on their sizes and their inherently low NO_x output. BACT for NO_x emissions from these boilers shall be the proper operation and maintenance of the boilers, the implementation of good combustion controls, and the emission limits identified in the following tables.

d. Carbon Monoxide and Volatile Organic Compounds: CO and VOC

CO and VOC emissions result from incomplete fuel combustion, which is typically caused by conditions such as insufficient residence time or limited oxygen availability in the boiler. CO and VOC emissions from natural gas-fired boilers of this size are generally managed through good combustion controls and proper operation and maintenance of the units.

Based on their sizes and their relatively low emission rates, the Department finds that BACT for CO and VOC emissions from these boilers shall be the proper operation and maintenance of these units, and the emission limits identified in the following tables.

2. BACT Findings

The BACT emission limits for boilers AEI-B-486-2, AEI-B-510-1, AEI-B-510-2, AEI-B-515-1, AEI-B-515-2, AEI-B-518-1, AEI-B-518-2, and AEI-B-542-1 were based on the following:

Natural Gas

- PM/PM₁₀ – 0.05 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
- SO₂ – 0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
- NO_x – 100 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
- CO – 84 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
- VOC – 5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
- Visible Emissions – 06-096 C.M.R. ch. 115, BACT

Emissions from boiler AEI-L-542-1 shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
AEI-B-542-1	PM	0.05	06-096 C.M.R. ch. 115, BACT

The boilers that have been converted to fire natural gas are shown in the following table, along with their BACT emission limits:

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
AEI-B-486-2 1.10 MMBtu/hr	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-510-1 1.10 MMBtu/hr	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-510-2 1.10 MMBtu/hr	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-515-1 1.21 MMBtu/hr	0.06	0.06	0.001	0.12	0.10	0.01
AEI-B-515-2 1.21 MMBtu/hr	0.06	0.06	0.001	0.12	0.10	0.01
AEI-B-518-1 1.10 MMBtu/hr	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-518-2 1.10 MMBtu/hr	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-542-1 4.24 MMBtu/hr	0.21	0.21	0.002	0.42	0.35	0.02

Visible emissions from boilers AEI-B-486-2, AEI-B-510-1, AEI-B-510-2, AEI-B-515-1, AEI-B-515-2, AEI-B-518-1, AEI-B-518-2, and AEI-B-542-1 shall not exceed 10% opacity on a six-minute block average basis.

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

Due to the sizes of the gas-fired boilers, they are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

4. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJ

Gas-fired boilers are exempt from 40 C.F.R. Part 63, Subpart JJJJJ. Boilers AEI-B-486-2, AEI-B-510-1, AEI-B-510-2, AEI-B-515-1, AEI-B-515-2, AEI-B-518-1, AEI-B-518-2, and AEI-B-542-1 are natural gas-fired boilers and are therefore not subject to Subpart JJJJJ.

[40 C.F.R. § 63.11195]

C. Emergency Engines – Pre 2006: Generators AEI-G-S-488-1, AEI-G-S-510-1, AEI-G-S-510-2, AEI-G-S-512-1, AEI-G-S-514-1, and AEI-G-S-518-1, and Fire Pumps AEI-FP-S-1, AEI-FP-S-2, and AEI-FP-S-3

The Air Guard operates six emergency generators that were manufactured prior to April 1, 2006. The emergency generators are generator sets with each gen set consisting of an engine and an electrical generator. The emergency generators have engines rated between 0.90 MMBtu/hr and 4.21 MMBtu/hr, and fire distillate fuel.

Additionally, the Air Guard operates fire pumps AEI-FP-S-1, AEI-FP-S-2, and AEI-FP-S-3. The three fire pumps have engines that are rated at between 1.6 MMBtu/hr and 3.4 MMBtu/hr, fire distillate fuel, and all were manufactured in 1994.

The updated specifications for the generator and fire pump engines are based on information and calculations performed by the Air Guard using actual engine design criteria. Because no physical changes were made to the equipment, emissions controls, or their method of operation, BPT from the current air emission license is still valid and has been used to calculate the new licensed limits for these generators and fire pumps.

1. BPT Findings

The BPT emission limits for the generators and fire pumps covered in this section are based on the following:

Large Stationary Distillate Fired Engines – Greater than 600 HP

Generator AEI-G-S-518-1

PM/PM ₁₀	- 0.12 lb/MMBtu, from 06-096 C.M.R. ch. 103(2)(B)(1)(a)
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, BPT

Stationary Distillate Fired Engines – 600 HP or less

Generators AEI-G-S-488-1, AEI-G-S-510-1, AEI-G-S-510-2, AEI-G-S-512-1, and AEI-G-S-514-1, and Fire Pumps AEI-FP-S-1, AEI-FP-S-2, and AEI-FP-S-3

PM/PM ₁₀	- 0.31 lb/MMBtu, for engines <3.0 MMBtu/hr, from AP-42 Table 3.3-1 dated 10/96
PM/PM ₁₀	- 0.12 lb/MMBtu, for engines ≥ 3.0 MMBtu/hr, from 06-096 C.M.R. ch. 103(2)(B)(1)(a)
SO ₂	- combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	- 4.41 lb/MMBtu, from AP-42 dated 10/96
CO	- 0.95 lb/MMBtu, from AP-42 dated 10/96
VOC	- 0.36 lb/MMBtu, from AP-42 dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 101, BPT

The BPT emission limits for the generators and fire pumps covered in this section are the following:

Unit	Pollutant	lb/MMBtu
Generators AEI-G-S-510-1, AEI-G-S-510-2, and AEI-G-S-518-1, and Fire Pumps AEI-FP-S-1 and AEI-FP-S-2	PM	0.12

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
AEI-FP-S-1 3.64 MMBtu/hr	0.44	0.44	0.005	16.05	3.46	1.31
AEI-FP-S-2 3.64 MMBtu/hr	0.44	0.44	0.005	16.05	3.46	1.31
AEI-FP-S-3 1.83 MMBtu/hr	0.57	0.57	0.003	8.07	1.74	0.66
AEI-G-S-488-1 1.52 MMBtu/hr	0.47	0.47	0.002	6.70	1.44	0.55
AEI-G-S-510-1 5.03 MMBtu/hr	0.60	0.60	0.008	22.18	4.78	1.81
AEI-G-S-510-2 5.03 MMBtu/hr	0.60	0.60	0.008	22.18	4.78	1.81
AEI-G-S-512-1 1.52 MMBtu/hr	0.47	0.47	0.002	6.70	1.44	0.55
AEI-G-S-514-1 1.90 MMBtu/hr	0.59	0.59	0.003	8.38	1.81	0.68
AEI-G-S-518-1 5.52 MMBtu/hr	0.66	0.66	0.01	17.66	4.69	0.50

Visible emissions from each of the distillate fuel-fired emergency generators and fire pumps shall not exceed 20% opacity on a six-minute block average basis.

2. New Source Performance Standards (NSPS)

Due to the dates of manufacture of the compression ignition emergency engines listed above, the engines are not subject to the New Source Performance Standards (NSPS) *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, 40 C.F.R. Part 60, Subpart IIII since the units were manufactured prior to April 1, 2006. [40 C.F.R. § 60.4200]

3. National Emission Standards for Hazardous Air Pollutants (NESHAP):
 40 C.F.R. Part 63, Subpart ZZZZ

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ is applicable to the emergency engines listed above. 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. [40 C.F.R. § 63.6585]

A summary of the currently applicable federal 40 C.F.R. Part 63, Subpart ZZZZ requirements is listed below.

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 63, Subpart ZZZZ, a stationary reciprocating internal combustion engine (RICE) is considered an **emergency** stationary RICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 63, Subpart ZZZZ, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster or equipment failure;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for 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 RICE more than 100 hours per calendar year.

- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, 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.

The generators and fire pumps covered in this section shall be limited to the usage outlined in 40 C.F.R. § 63.6640(f) and therefore may be classified as existing emergency stationary RICE as defined in 40 C.F.R. Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in 40 C.F.R. § 63.6640(f) may cause these engines to not be considered emergency engines and therefore subject to all applicable requirements for non-emergency engines.

b. 40 C.F.R. Part 63, Subpart ZZZZ Requirements

- (1) Operation and Maintenance Requirements
 (40 C.F.R. § 63.6603(a) and Table 2(d))

Units	Operating Limitations
<u>Generators:</u>	
AEI-G-S-488-1	- 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.
AEI-G-S-510-1	
AEI-G-S-510-2	
AEI-G-S-512-1	
AEI-G-S-514-1	
AEI-G-S-518-1	
<u>Fire Pumps:</u>	
AEI-FP-S-1	
AEI-FP-S-2	
AEI-FP-S-3	

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions, or the Air Guard shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine(s) in a manner consistent with good air pollution control practice for minimizing emissions.

[40 C.F.R. § 63.6625(e)]

(2) Optional Oil Analysis Program

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

(3) Non-Resettable Hour Meter Requirement

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

(4) Startup Idle and Startup Time Minimization Requirements

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

(5) Annual Time Limit for Maintenance and Testing

As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, 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). [40 C.F.R. § 63.6640(f)]

(6) Recordkeeping

The Air Guard shall keep records that include maintenance conducted on the engine(s) and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 63.6655(f)]

D. Emergency Engines Post-2006: Generators AEI-G-S-416-1, AEI-G-S-417-1, AEI-G-S-423-1, AEI-G-S-486-1, AEI-G-S-489-1, AEI-G-S-491-1, AEI-G-S-493-1, AEI-G-S-499-1, AEI-G-S-505-1, AEI-G-S-513-1, AEI-G-S-515-1, AEI-G-S-525-1, AEI-G-S-536-1, AEI-G-S-540-1, AEI-G-S-541-1, and AEI-G-S-542-1

The Air Guard operates 16 emergency generators that were manufactured on or after April 1, 2006. The emergency generators are generator sets with each gen set consisting of an engine and an electrical generator. These emergency generators have engines that are rated between 0.57 MMBtu/hr and 7.50 MMBtu/hr, and all fire distillate fuel.

The updated specifications for the generator engines are based on information and calculations performed by the Air Guard using actual engine design criteria. Because no physical changes were made to these generators, their emissions controls, or their methods of operation, BPT from the current air emission license is still valid and has been used to calculate the new licensed limits for these generators.

1. BPT Findings

The BPT emission limits for the generators covered in this section are based on the following:

Large Stationary Distillate Fired Engines – Greater than 600 HP

Generator AEI-G-S-499-1

PM/PM ₁₀	- 0.12 lb/MMBtu, from 06-096 C.M.R. ch. 103(2)(B)(1)(a)
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, BPT

Stationary Distillate Fired Engines – 600 HP or less

Generators AEI-G-S-416-1, AEI-G-S-417-1, AEI-G-S-423-1, AEI-G-S-486-1, AEI-G-S-489-1, AEI-G-S-491-1, AEI-G-S-493-1, AEI-G-S-505-1, AEI-G-S-513-1, AEI-G-S-515-1, AEI-G-S-525-1, AEI-G-S-536-1, AEI-G-S-540-1, AEI-G-S-541-1, and AEI-G-S-542-1

PM/PM ₁₀	- 0.31 lb/MMBtu, for engines <3.0 MMBtu/hr, from AP-42 Table 3.3-1 dated 10/96
PM/PM ₁₀	- 0.12 lb/MMBtu, for engines ≥ 3.0 MMBtu/hr, from 06-096 C.M.R. ch. 103(2)(B)(1)(a)
SO ₂	- combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	- 4.41 lb/MMBtu, from AP-42 dated 10/96
CO	- 0.95 lb/MMBtu, from AP-42 dated 10/96
VOC	- 0.36 lb/MMBtu, from AP-42 dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 101, BPT

The BPT emission limits for the generators covered in this section are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Generators AEI-G-S-493-1, AEI-G-S-499-1, and AEI-G-S-525-1	PM	0.12

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
AEI-G-S-416-1 0.80 MMBtu/hr	0.25	0.25	0.001	3.53	0.76	0.29
AEI-G-S-417-1 2.43 MMBtu/hr	0.75	0.75	0.004	10.72	2.31	0.87
AEI G-S-423-1 1.11 MMBtu/hr	0.34	0.34	0.002	4.90	1.05	0.40
AEI-G-S-486-1 0.80 MMBtu/hr	0.25	0.25	0.001	3.53	0.76	0.29
AEI G-S-489-1 0.80 MMBtu/hr	0.25	0.25	0.001	3.53	0.76	0.29
AEI-G-S-491-1 0.69 MMBtu/hr	0.21	0.21	0.001	3.04	0.66	0.25
AEI G-S-493-1 3.18 MMBtu/hr	0.38	0.38	0.005	14.02	3.02	1.14
AEI-G-S-499-1 7.50 MMBtu/hr	0.90	0.90	0.01	24.00	6.38	0.68
AEI G-S-505-1 1.11 MMBtu/hr	0.34	0.34	0.002	4.90	1.05	0.40
AEI-G-S-513-1 0.71 MMBtu/hr	0.22	0.22	0.001	3.13	0.67	0.26
AEI G-S-515-1 1.82 MMBtu/hr	0.56	0.56	0.003	8.03	1.73	0.66
AEI-G-S-525-1 3.18 MMBtu/hr	0.38	0.38	0.005	14.02	3.02	1.14
AEI-G-S-536-1 0.80 MMBtu/hr	0.25	0.25	0.001	3.53	0.76	0.29
AEI-G-S-540-1 0.57 MMBtu/hr	0.18	0.18	0.001	2.51	0.54	0.21
AEI G-S-541-1 0.71 MMBtu/hr	0.34	0.34	0.002	4.90	1.05	0.40
AEI-G-S-542-1 1.11 MMBtu/hr	0.21	0.21	0.001	3.04	0.66	0.25

Visible emissions from each of the distillate fuel-fired generators shall not exceed 20% opacity on a six-minute block average basis.

2. 40 C.F.R. Part 60, Subpart IIII

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart IIII is applicable to the emergency engines listed above since the units were ordered after July 11, 2005 and manufactured after April 1, 2006. [40 C.F.R. § 60.4200] By meeting the requirements of 40 C.F.R. Part 60, 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 C.F.R. Part 63, Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

A summary of the currently applicable federal 40 C.F.R. Part 60, Subpart IIII requirements is listed below.

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart IIII, a stationary reciprocating internal combustion engine (ICE) is considered an **emergency** stationary ICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 60, Subpart IIII, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster or equipment failure;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for 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 more than 100 hours per calendar year.
- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, 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.

[40 C.F.R. §§ 60.4211(f) and 60.4219]

b. 40 C.F.R. Part 60, Subpart III Requirements

(1) Manufacturer Certification Requirement

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 C.F.R. § 60.4202. [40 C.F.R. § 60.4205(b)]

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur). [40 C.F.R. § 60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

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

(4) Operation and Maintenance Requirements

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

(5) Annual Time Limit for Maintenance and Testing

As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, 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). [40 C.F.R. § 60.4211(f)]

(6) Initial Notification Requirement

No initial notification is required under 40 C.F.R. Part 60, Subpart IIII for emergency engines. [40 C.F.R. § 60.4214(b)]

(7) Recordkeeping

The Air Guard 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 each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

E. De-Icing and Anti-Icing Operations

The Air Guard uses approximately 25,000 to 35,000 gallons per winter of propylene glycol-based anti-icing deicer fluid (ADF). During contingency operations, the facility may use substantially more ADF. Propylene glycol (CAS No. 57-55-6) is a VOC but not a HAP. Based on US EPA publication *Preliminary Data Summary of Airport Deicing Operations (Revised)* dated August 2000, the emission factor for VOC emissions from deicing operations is 16.1 lb VOC/10,000 gallons of ADF dispensed.

Based on the estimated quantities of ADF used annually by the Air Guard at their facilities, and using the conservative emission factor of 16.1 lb/10,000 gallons of ADF dispensed, the Department finds that the de-icing and anti-icing operations performed at the Air Guard constitute an insignificant activity as it results in less than one (1) ton per of VOC emitted from the process. [06-096 C.M.R. ch. 115, Appendix B, Section (B)(1)(a)]

F. Parts Washers

The Air Guard utilizes four parts washers at their facility. Two units, each with a design capacity of 15 gallons, were installed in 2012. Two additional units, one having a design capacity of 20 gallons and the other having a design capacity of 48 gallons, were installed in 2017. Each of these four parts washers are subject to *Solvent Cleaners*, 06-096 C.M.R. ch. 130 and records shall be kept for each documenting compliance.

This equipment is exempt from *Industrial Cleaning Solvents*, 06-096 C.M.R. ch. 166 per Section (3)(B).

G. Annual Emissions

Total Annual Emissions

The Air Guard shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on the following:

- The equivalent fuel use of 56,000 MMBtu/year of heat input into the boilers and heaters facility-wide, firing distillate fuel, propane, natural gas, or a combination of these fuels, using the worst case scenario for each pollutant;
- 100 hours/year of operation for each emergency generator and fire pump
- A facility-wide cap of 9.9 tons/year of total HAP emissions

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers and Heaters	1.76	1.76	0.03	3.29	2.31	0.15
Generators	0.53	0.53	negl.	11.77	2.64	0.85
Paint Booths	--	--	--	--	--	1.7
Process Emissions	--	--	--	--	--	0.1
Total TPY	2.3	2.3	0.1	15.1	5.0	2.8

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.

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-627-71-K-A, subject to the conditions found in Air Emission License A-627-71-J-R/A 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 Condition (16)(B) of Air Emission License A-627-71-J-R/A:

(16) **Boilers and Water Heaters**

B. Emissions shall not exceed the following:

<u>Boiler</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Authority</u>
AEI-L-499-1	PM	0.12	06-096 C.M.R. ch. 103 (2)(B)(1)(a); applicable to units larger than 3.0 MMBtu/hour
AEI-L-499-2			
AEI-L-499-3			
AEI-B-542-1			

The following shall replace Specific Condition (16)(C) of Air Emission License A-627-71-J-R/A:

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

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
<i>Distillate Fuel-Fired Boiler</i>						
AEI-B-532-1 (4.24 MMBtu/hr)	0.21	0.21	0.002	0.42	0.35	0.02
<i>Natural Gas-Fired Boilers and Water Heater</i>						
AEI-B-420-1 (1.23 MMBtu/hr)	0.06	0.06	0.001	0.12	0.10	0.01
AEI-B-486-2 (1.10 MMBtu/hr)	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-493-1 (1.00 MMBtu/hr)	0.05	0.05	0.001	0.10	0.08	0.01
AEI-B-493-2 (1.00 MMBtu/hr)	0.05	0.05	0.001	0.10	0.08	0.01
AEI-B-499-1 (4.00 MMBtu/hr)	0.20	0.20	0.002	0.39	0.33	0.02
AEI-B-499-2 (4.00 MMBtu/hr)	0.20	0.20	0.002	0.39	0.33	0.02
AEI-B-499-3 (4.00 MMBtu/hr)	0.20	0.20	0.002	0.39	0.33	0.02
AEI-B-499-W1 * (1.50 MMBtu/hr)	0.08	0.08	0.001	0.15	0.12	0.01
AEI-B-510-1 (1.10 MMBtu/hr)	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-510-2 (1.10 MMBtu/hr)	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-515-1 (1.21 MMBtu/hr)	0.06	0.06	0.001	0.12	0.10	0.01
AEI-B-515-2 (1.21 MMBtu/hr)	0.06	0.06	0.001	0.12	0.10	0.01
AEI-B-518-1 (1.10 MMBtu/hr)	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-518-2 (1.10 MMBtu/hr)	0.06	0.06	0.001	0.11	0.09	0.01
AEI-B-542-1 (4.24 MMBtu/hr)	0.21	0.21	0.002	0.42	0.35	0.02

* - Water Heater

The following shall replace Specific Condition (16)(D) of Air Emission License A-627-71-J-R/A:

D. Visible emissions from distillate fuel-fired boiler AEI-B-532-1 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101]

The following shall replace Specific Condition (16)(E) of Air Emission License A-627-71-J-R/A:

E. Visible emissions from each of the units listed in Specific Condition (16)(C) that fire natural gas shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101]

The following shall replace Specific Condition (17)(C) of Air Emission License A-627-71-J-R/A:

(17) **Emergency Generators and Fire Pump Engines**

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

Unit	Pollutant	lb/MMBtu	Origin and Authority
AEI-FP-S-1	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)
AEI-FP-S-2			
AEI-G-S-493-1			
AEI-G-S-499-1			
AEI-G-S-510-1			
AEI-G-S-510-2			
AEI-G-S-518-1			
AEI-G-S-525-1			

The following shall replace Specific Condition (17)(D) of Air Emission License A-627-71-J-R/A:

D. Emissions shall not exceed the following: [06-096 C.M.R. ch. 115, BPT]

1. Engines > 600 HP (431 kW)

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
AEI-G-S-499-1 (7.50 MMBtu/hr)	0.90	0.90	0.01	24.00	6.38	0.68
AEI-G-S-518-1 (5.52 MMBtu/hr)	0.66	0.66	0.01	17.66	4.69	0.50

2. Engines ≤ 600 HP (431 kW) with Heat Input ≥ 3.0 MMBtu/hr

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
AEI-FP-S-1 (3.64 MMBtu/hr)	0.44	0.44	0.005	16.05	3.46	1.31
AEI-FP-S-2 (3.64 MMBtu/hr)	0.44	0.44	0.005	16.05	3.46	1.31
AEI-G-S-493-1 (3.18 MMBtu/hr)	0.38	0.38	0.005	14.02	3.02	1.14
AEI-G-S-510-1 (5.03 MMBtu/hr)	0.60	0.60	0.008	22.18	4.78	1.81
AEI-G-S-510-2 (5.03 MMBtu/hr)	0.60	0.60	0.008	22.18	4.78	1.81
AEI-G-S-525-1 (3.18 MMBtu/hr)	0.38	0.38	0.005	14.02	3.02	1.14

3. Engines < 600 HP (431 kW) with Heat Input < 3.0 MMBtu/hr

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
AEI-FP-S-3 (1.83 MMBtu/hr)	0.57	0.57	0.003	8.07	1.74	0.66
AEI-G-S-416-1 (0.80 MMBtu/hr)	0.25	0.25	0.001	3.53	0.76	0.29
AEI-G-S-417-1 (2.43 MMBtu/hr)	0.75	0.75	0.004	10.72	2.31	0.87
AEI-G-S-423-1 (1.11 MMBtu/hr)	0.34	0.34	0.002	4.90	1.05	0.40

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
AEI-G-S-486-1 (0.80 MMBtu/hr)	0.25	0.25	0.001	3.53	0.76	0.29
AEI-G-S-488-1 (1.52 MMBtu/hr)	0.47	0.47	0.002	6.70	1.44	0.55
AEI-G-S-489-1 (0.80 MMBtu/hr)	0.25	0.25	0.001	3.53	0.76	0.29
AEI-G-S-491-1 (0.69 MMBtu/hr)	0.21	0.21	0.001	3.04	0.66	0.25
AEI-G-S-505-1 (1.11 MMBtu/hr)	0.34	0.34	0.002	4.90	1.05	0.40
AEI-G-S-512-1 (1.52 MMBtu/hr)	0.47	0.47	0.002	6.70	1.44	0.55
AEI-G-S-513-1 (0.71 MMBtu/hr)	0.22	0.22	0.001	3.13	0.67	0.26
AEI-G-S-514-1 (1.90 MMBtu/hr)	0.59	0.59	0.003	8.38	1.81	0.68
AEI-G-S-515-1 (1.82 MMBtu/hr)	0.56	0.56	0.003	8.03	1.73	0.66
AEI-G-S-536-1 (0.80 MMBtu/hr)	0.25	0.25	0.001	3.53	0.76	0.29
AEI-G-S-540-1 (0.57 MMBtu/hr)	0.18	0.18	0.001	2.51	0.54	0.21
AEI-G-S-541-1 (0.71 MMBtu/hr)	0.22	0.22	0.001	3.13	0.67	0.26
AEI-G-S-542-1 (1.11 MMBtu/hr)	0.34	0.34	0.002	4.90	1.05	0.40

The following shall replace Specific Condition (17)(E) of Air Emission License A-627-71-J-R/A:

E. Visible Emissions

Visible emissions from each of the distillate fuel-fired generators and fire pumps shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

The following shall replace Specific Condition (17)(G) of Air Emission License A-627-71-J-R/A:

G. NSPS: 40 C.F.R. Part 60, Subpart IIII Requirements

The requirements of 40 C.F.R. Part 60, Subpart IIII are applicable to the following emergency engines:

AEI-G-S-416-1	AEI-G-S-493-1	AEI-G-S-536-1
AEI-G-S-417-1	AEI-G-S-499-1	AEI-G-S-540-1
AEI-G-S-423-1	AEI-G-S-505-1	AEI-G-S-541-1
AEI-G-S-486-1	AEI-G-S-513-1	AEI-G-S-542-1
AEI-G-S-489-1	AEI-G-S-515-1	--
AEI-G-S-490-1	AEI-G-S-525-1	--

1. Manufacturer Certification

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in §60.4202. [40 C.F.R. § 60.4205(b)]

2. Ultra-Low Sulfur Fuel

The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur). Compliance with the fuel sulfur content limit shall be demonstrated by fuel delivery receipts from the supplier, fuel supplier certification, certificate of analysis, or testing of the tank containing the fuel to be fired. [40 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 115, BPT]

3. Non-Resettable Hour Meter

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

4. Annual Time Limit for Maintenance and Testing

- a. As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, 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). These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written log) of all engine operating hours. [40 C.F.R. § 60.4211(f) and 06-096 C.M.R. ch. 115, BPT]

- b. The Air Guard shall keep records that include maintenance conducted on each engine and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

5. Operation and Maintenance

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions. The Air Guard may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)]

The following shall replace Specific Condition (17)(H) of Air Emission License A-627-71-J-R/A:

- H. The requirements of 40 C.F.R. Part 53, Subpart ZZZZ are applicable to the following emergency engines:

AEI-FP-S-1	AEI-G-S-488-1	AEI-G-S-512-1
AEI-FP-S-2	AEI-G-S-510-1	AEI-G-S-514-1
AEI-FP-S-3	AEI-G-S-510-2	AEI-G-S-518-1

1. Operation and Maintenance Requirements

- a. The Air Guard shall conduct the following for each unit subject to this Subpart:
- 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.

[40 C.F.R. § 63.6603(a) and Table 2(d)]

- b. The engines shall be operated and maintained according to the manufacturer's emission-related written instructions, or the Air Guard shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engines in a manner consistent with good air pollution control practice for minimizing emissions. [40 C.F.R. § 63.6625(e)]

2. Optional Oil Analysis Program

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

3. Non-Resettable Hour Meter Requirement

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

4. Startup Idle and Startup Time Minimization Requirements

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

5. Annual Time Limit for Maintenance and Testing

As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, 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). [40 C.F.R. § 63.6640(f)]

6. Recordkeeping

The Air Guard 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 each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 63.6655(f)]

The following shall replace Specific Condition (19) of Air Emission License A-627-71-J-R/A:

(19) De-Icing and Anti-Icing Operations

The Air Guard shall document the quantity of de-icing and anti-icing operations on a monthly basis. The emission factor of 16.1 lb/10,000 gallons of fluid dispensed shall be used to determine VOC emissions from these operations. [A-627-71-G-R/A, (May 14, 2010), BPT]

The following shall replace Specific Condition (22) of Air Emission License A-627-71-J-R/A:

(22) VOC and HAP Facility-Wide Emission Limits

- A. Total VOC emissions shall not exceed 2.8 tons/year on a 12-month rolling total basis.
- B. Total HAP emissions shall not exceed 9.9 tons/year, on a 12-month rolling total basis.
- C. Compliance shall be demonstrated by the Air Guard through records that show the quantities of propylene-based anti-icing deicer fluid, paints, and coatings, and the manufacturer's stated VOC and/or HAP content of each material. Calculations of VOC emissions from the fuel storage tanks shall also be included when calculating the facility-wide emissions to demonstrate compliance.

[06-096 C.M.R. ch. 115, BPT]

The following shall replace Specific Condition (25) of Air Emission License A-627-71-J-R/A:

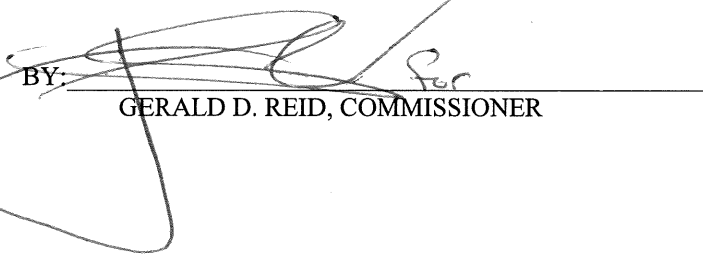
(25) Annual Emission Statement

Implementation of and compliance with the lower licensed annual VOC emission limit, as requested by the Air Guard and imposed in this amendment, eliminates the facility's statutory requirement to annually report their annual emissions to the Department for the purposes of updating the State's emission inventory, beginning with the reporting calendar year 2020. [06-096 C.M.R. ch. 137(1)(B)(3)]

DONE AND DATED IN AUGUSTA, MAINE THIS 25th DAY OF February, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:


GERALD D. REID, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-627-71-J-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: February 8, 2018

Date of application acceptance: April 12, 2019

Date filed with the Board of Environmental Protection:

This Order prepared by Patric J. Sherman, Bureau of Air Quality.

FILED

FEB 25 2020

State of Maine
Board of Environmental Protection