



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Portland International Jetport
Cumberland County
Portland, Maine
A-582-71-I-R/A (SM)

Departmental
Findings of Fact and Order
Air Emission License

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

I. REGISTRATION

A. Introduction

Portland International Jetport of Portland, Maine has applied to renew and amend the air emission license permitting the operation of heating and emergency power generation units associated with their air travel facility.

This license includes the renewal information, corrects the firing rate of one of the generators, adds three units (a boiler used for snow melt, a de-icing pad generator, and a generator in the new terminal), and revises emission factors.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Install Date</u>	<u>Stack #</u>
West Penthouse Boiler 1	3.08	22 gal/hr	#2 oil, 0.35%	1990	2
West Penthouse Boiler 2	4.41	31.5 gal/hr	#2 oil, 0.35%	1996	12
Bag Claim Penthouse Boiler 1	3.04	26.6 gal/hr	#2 oil, 0.35%	2004	16
		2951 ft ³ /hr	Natural Gas		
Bag Claim Penthouse Boiler 2	3.04	26.6 gal/hr	#2 oil, 0.35%	2004	17
		2951 ft ³ /hr	Natural Gas		
North Garage Snow Melt Boiler	1.35	1350 ft ³ /hr	Natural gas	2009	n/a

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Generators

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Install Date</u>	<u>Stack #</u>
West Penthouse 75 kW Generator	0.938	6.7 gal/hr	#2 oil, 0.35%	1996	11
North Garage Generator	2.88	2880 ft ³ /hr	Natural gas	2002	13
Lighting Vault Generator	2.506	17.9 gal/hr	#2/Diesel oil, 0.35%	2004	15
Bag Claim Penthouse Generator	1.55	11.1 gal/hr	#2/Diesel oil, 0.05%	2004	19
Maintenance Building Generator	0.89	366 cfm	Propane	2004	18
De-icing Pad Generator	4.69	33.5 gal/hr	#2/Diesel oil, 0.0015%	2010	20
New Terminal Generator	7.49	53.5 gal/hr	#2/Diesel oil, 0.0015%	2011 (expected)	21

The Portland International Jetport has additional smaller units that are considered insignificant activities based on size and are not required to be included in the air emission license.

C. Application Classification

The application for Portland International Jetport includes equipment not currently licensed. The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
PM	1.2	1.71	+ 0.51	100
PM ₁₀	1.2	1.71	+ 0.51	100
SO ₂	2.7	2.76	+ 0.06	100
NO _x	10.9	28.03	+ 17.13	100
CO	1.8	7.16	+ 5.36	100
VOC	0.6	1.81	+ 1.21	50

This modification is determined to be a minor modification and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended). With the fuel oil limit on the boilers and the operating hour restriction on the emergency generators, the facility is licensed below the major source thresholds and is considered a synthetic minor.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

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

B. Boilers

Portland International Jetport operates several boilers to supply building heat or for use as part of the snow melt system. The West Penthouse Boilers 1 and 2 are rated at 3.08 MMBtu/hr and 4.41 MMBtu/hr, respectively, and fire #2 fuel oil (0.35% sulfur). They were installed in 1990 and 1996, correspondingly. The Bag Claim Penthouse Boilers 1 and 2, installed in 2004, are each rated at 3.04 MMBtu/hr and have the capability of firing #2 fuel oil (0.35% sulfur) or natural gas. The North Garage Snow Melt Boiler is rated at 1.35 MMBtu/hr and fires natural gas (installed in 2009).

Due to the size of the boilers, they are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

1. BACT/BPT Findings

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

#2 Fuel Oil

- PM/PM₁₀ – 0.12 lb/MMBtu based on 06-096 CMR 103
- SO₂ – based on firing 0.35% sulfur; 0.35 lb/MMBtu
- NO_x – 0.35 lb/MMBtu based on previous licenses
- CO – 5 lb/1000 gal, AP-42, Table 1.3-1, dated 5/10
- VOC – 0.2 lb/1000 gal, AP-42, Table 1.3-3, dated 5/10
- Opacity – Visible emissions from each boiler firing fuel oil shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period.

Natural gas

- PM/PM₁₀ – 0.12 lb/MMBtu based on 06-096 CMR 103
- SO₂ – 0.6 lb/MMscf: AP-42, Table 1.4-2 (dated 7/98)
- NO_x – 100 lb/MMscf: AP-42, Table 1.4-1 (dated 7/98)
- CO – 84 lb/MMscf: AP-42, Table 1.4-1 (dated 7/98)
- VOC – 5.5 lb/MMscf: AP-42, Table 1.4-2 (dated 7/98)
- Opacity – Visible emissions from the each boiler firing natural gas shall not exceed an opacity of 10% on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period.

The BPT emission limits for the boilers are the following:

Unit	Fuel	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
West Penthouse Boiler 1 (3.08 MMBtu/hr)	#2 oil	0.37	0.37	1.08	1.08	0.11	0.01
West Penthouse Boiler 2 (4.41 MMBtu/hr)	#2 oil	0.53	0.53	1.54	1.54	0.16	0.01
Bag Claim Penthouse Boiler 1 (3.04 MMBtu/hr)	#2 oil	0.36	0.36	1.06	1.06	0.13	0.01
	Nat'l Gas	0.006	0.006	0.002	0.30	0.25	0.02
Bag Claim Penthouse Boiler 2 (3.04 MMBtu/hr)	#2 oil	0.36	0.36	1.06	1.06	0.13	0.01
	Nat'l Gas	0.006	0.006	0.002	0.30	0.25	0.02
North Garage Snow Melt Boiler (1.35 MMBtu/hr)	Nat'l Gas	0.002	0.002	0.0008	0.13	0.11	0.01

Portland International Jetport shall be limited to 98,000 gallons/yr of #2 fuel oil.

Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document fuel use both on a monthly and 12 month rolling total basis. Documentation shall include the type of fuel used.

2. 40 CFR Part 63 Subpart JJJJJ

The West Penthouse Boiler 1, West Penthouse Boiler 2, Bag Claim Penthouse Boiler 1, and Bag Claim Penthouse Boiler 2 firing #2 fuel oil are subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ). The units are each rated under 10 MMBtu/hr and are thus not subject to PM, CO, or mercury emission limits from 40 CFR Part 63 Subpart JJJJJ. The North Garage Snow Melt Boiler, firing natural gas, is not subject to any part of this regulation.

For informational purposes, a summary of the applicable federal 40 CFR Part 63 Subpart JJJJJ requirements are listed below. The Maine Department of Environmental Protection has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA, however Portland International Jetport is still subject to the requirements.

- a. An initial notification must be submitted to EPA no later than September 17, 2011. [40 CFR Part 63.11225(a)(2)]
- b. A boiler tune-up program shall be implemented to include the tune-up of the applicable boilers by March 21, 2012. [40 CFR Part 63.11196(a)(1)]
- c. A Notification of Compliance Status shall be submitted to EPA no later than 120 days after conducting the initial boiler tune-up. [40 CFR Part 63.11225(a)(4)] The Notification of Compliance Status form developed by EPA may be used to submit the required information. This notice can be found near the bottom of the page on the following website: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.
- d. After the initial tune-up and initial compliance report has been submitted, the facility shall implement a biennial boiler tune-up program and submit biennial compliance reports. The following are requirements of the boiler tune-up program:
 - i. Each biennial tune-up shall be conducted no more than 25 months after the previous tune-up. [40 CFR Part 63.11223(a)]
 - ii. Each biennial tune-up shall include the following, as applicable:
 - (a) Inspection of the burner, cleaning/replacing any component of the burner, as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; however, the burner must be

- inspected at least once every 36 months. [40 CFR Part 63.11223(b)(1)]
- (b) Inspection of the flame pattern, and adjustment of the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
 - (c) Inspection of the system controlling the air-to-fuel ratio, to ensure proper calibration and that it is functioning properly. [40 CFR Part 63.11223(b)(3)]
 - (d) Optimization of total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
 - (e) Measurement of concentration in the effluent stream of CO in parts per million (ppm), by volume, and oxygen in volume percent, before and after adjustments are made. [40 CFR Part 63.11223(b)(5)]
- iii. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of start-up. [40 CFR Part 63.11223(b)(7)]
- e. Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of compliance reports; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation.

C. Emergency Generators – Pre-2006

(West Penthouse Generator, Lightning Vault Generator, Bag Claim Penthouse Generator, North Garage Generator, and Maintenance Building Generator)

The West Penthouse Generator rated at 0.94 MMBtu/hr (installed 1996) and the Lightning Vault Generator rated at 2.5 MMBtu/hr (installed 2004) are #2 fuel oil/diesel fired units with a maximum sulfur content of 0.35%. The Bag Claim Penthouse Generator rated at 1.55 MMBtu/hr (installed 2004) fires #2 oil/diesel fuel with a maximum sulfur content of 0.05%. The North Garage Generator is natural gas fired and is rated at 2.88 MMBtu/hr (installed 2002). The Maintenance Building generator is propane fired and is rated at 0.89 MMBtu/hr (installed 2004).

1. BACT/BPT Findings

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

Diesel

- PM/PM₁₀ – 0.31 lb/MMBtu from AP-42 Table 3.3-1 (dated 10/96)
- SO₂ – based on firing 0.05% sulfur, 0.05 lb/MMBtu; based on firing 0.35% sulfur, 0.35 lb/MMBtu
- NO_x – 4.41 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
- CO – 0.95 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
- VOC – 0.36 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
- Opacity – Visible emissions from each of the diesel generators shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period.

Natural Gas (also used for propane due to lack of available factors)

- PM/PM₁₀ – 0.12 lb/MMBtu based on 06-096 CMR 103 for the North Garage Generator; 0.01 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke engines (dated 7/2000) for the Maintenance Building Generator
- SO₂ – 0.000588 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke engines (dated 7/2000) for the North Garage Generator; 0.1 lb/MMBtu of the Maintenance Building Generator
- NO_x – 4.08 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke engines (dated 7/2000)
- CO – 0.317 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke engines (dated 7/2000)
- VOC – 0.118 lb/MMBtu, AP-42, Section 3.3-2 for 4-stroke engines (dated 7/2000)
- Opacity – Visible emissions from each of the natural gas and propane fired generators shall not exceed an opacity of 10% on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period.

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
West Penthouse Gen. (0.94 MMBtu/hr) #2 fuel oil, 0.35% S	0.28	0.28	0.32	4.05	0.87	0.33
North Garage Gen. (2.88 MMBtu/hr) Natural gas	0.36	0.36	0.002	12.10	0.94	0.36
Lighting Vault Gen. (2.5 MMBtu/hr) #2 fuel oil, 0.35% S	0.76	0.76	0.86	10.81	2.33	0.88
Bag Claim Penthouse Gen. (1.55 MMBtu/hr) #2 fuel oil, 0.05% S	0.47	0.47	0.08	6.71	1.44	0.55
Maintenance Bldg. Gen. (0.89 MMBtu/hr) Propane	0.01	0.01	0.089	3.63	0.28	0.11

Each of the emergency generators shall be limited to 500 hours of operation a year, based on a 12 month rolling total. Portland International Jetport shall keep records of the hours of operation for each unit.

2. 40 CFR Part 63, Subpart ZZZZ

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 the five emergency generators 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 specifically does not exempt scheduled passenger air transportation, scheduled freight air transportation, nonscheduled chartered passenger air transportation, nonscheduled chartered freight air transportation, other nonscheduled air transportation, air traffic control, other airport operations, or other support activities for air transportation from these federal requirements.

Emergency Definition:

Emergency stationary reciprocating internal combustion engine (RICE) is defined in 40 CFR Part 63, Subpart ZZZZ as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE 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 RICE used to pump water in the

case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f).

§63.6640(f) limits maintenance checks and readiness testing of the units to 100 hours per year. Emergency stationary RICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

40 CFR Part 63, Subpart ZZZZ Requirements:

	Compliance Dates	Operating Limitations* (40 CFR §63.6603(a) and Table 2(d))
Compression ignition (diesel, fuel oil) units: West Penthouse Generator, Lightning Vault Generator, and Bag Claim Penthouse Generator	No later than May 3, 2013	<ul style="list-style-type: none"> - 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; - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary
Spark ignition (natural gas, propane) units: North Garage Generator and Maintenance Building Generator	No later than October 19, 2013	<ul style="list-style-type: none"> - Change oil and filter every 500 hours of operation or annually, whichever comes first; - Inspect spark plugs every 1000 hours of operation or annually, whichever comes first; - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary

* Note: Due to the 500 hour operation limit on each generator, the inspections and oil/filter changes shall be performed annually to meet the requirements of 40 CFR Part 63, Subpart ZZZZ.

The five generators shall be operated and maintained according to the manufacturer's emission-related written instructions or Portland International Jetport shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

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

The five generators shall each be limited to 100 hours/year for maintenance and testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving or generating income or a financial arrangement with another entity). A maximum of 15 hours per year (of the 50 hours/year) may be used as part of a demand response program. [40 CFR §63.6640(f)(1)]

Portland International Jetport shall keep records that include maintenance conducted on the five generators and the hours of operation of each engines recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generators are used for demand response operation, Portland International Jetport must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 CFR §63.6655(e) and (f)]

D. Emergency Generators – Post-2006

(De-Icing Pad Generator and the New Terminal Generator)

The De-icing Pad Generator, rated at 4.69 MMBtu/hr (installed 2010), and the New Terminal Generator, rated at 7.49 MMBtu/hr (proposed installation 2011), fire #2 fuel oil/diesel with 0.0015% sulfur.

1. BACT/BPT Findings

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

Diesel

PM/PM₁₀ – 0.12 lb/MMBtu based on 06-096 CMR 103

SO₂ –based on firing 0.0015% sulfur, 0.0015 lb/MMBtu

NO_x – 4.41 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)

CO – 0.95 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)

VOC – 0.36 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96)

Opacity – Visible emissions from each of the diesel generators shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period.

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
De-icing Pad Gen. (4.69 MMBtu/hr) diesel, 0.0015% S	0.55	0.55	0.0069	20.24	4.36	1.65
New Terminal Gen. (7.49 MMBtu/hr) diesel, 0.0015% S	0.88	0.88	0.011	32.32	6.96	2.64

Each of the emergency generators shall be limited to 500 hours of operation a year, based on a 12 month rolling total. Portland International Jetport shall keep records of the hours of operation for each unit.

2. 40 CFR Part 60, Subpart IIII

The federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* is applicable to the two emergency generators listed above since the units were ordered after July 11, 2005 and manufactured after April 1, 2006.

Emergency Definition:

Emergency stationary internal combustion engine is defined in 40 CFR Part 60, Subpart IIII as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

40 CFR Part 60, Subpart IIII Requirements:

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

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

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

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

The two generators shall each be limited to 100 hours/year for maintenance and testing. [40 CFR §60.4211(e)]

E. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

F. Annual Emissions

Portland International Jetport shall be restricted to the annual emissions in the table below, based on a 12 month rolling total. The annual emissions were calculated using 98,000 gallons/year #2 fuel oil in the boilers, no restriction on natural gas in the Bag Claim Penthouse or Snow Melt Boilers, and 500 hours/year for each of the generators.

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

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Oil Boilers	0.82	0.82	2.4	2.4	0.21	0.01
Natural Gas Boilers	0.06	0.06	0.02	3.16	2.65	0.17
West Penthouse Gen.	0.07	0.07	0.08	1.01	0.22	0.08
North Garage Gen.	0.09	0.09	0.0004	3.03	0.24	0.09
Lighting Vault Gen.	0.19	0.19	0.21	2.70	0.58	0.22
Bag Claim Penthouse Gen.	0.12	0.12	0.02	1.68	0.36	0.14
Maintenance Bldg. Gen.	0.002	0.002	0.02	0.91	0.07	0.03
De-icing Pad Gen.	0.14	0.14	0.002	5.06	1.09	0.41
New Terminal Gen.	0.22	0.22	0.003	8.08	1.74	0.66
Total TPY	1.71	1.71	2.76	28.03	7.16	1.81

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

Pollutant	Tons/Year
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the total facility licensed emissions, Portland International Jetport is below the emissions level required for modeling and monitoring.

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,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-582-71-I-R/A subject to the following conditions.

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

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]

- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

- A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
[06-096 CMR 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission 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**

A. The West Penthouse Boiler 1, West Penthouse Boiler 2, Bag Claim Penthouse Boiler 1, and Bag Claim Penthouse Boiler 2 shall not exceed a total fuel use of 98,000 gal/yr of #2 fuel oil (ASTM D396 compliant). The Bag Claim Penthouse Boiler 1, Bag Claim Penthouse Boiler 2, and North Garage Snow Melt Boiler may fire natural gas. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
West Penthouse Boiler 1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
West Penthouse Boiler 2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Bag Claim Penthouse Boiler 1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Bag Claim Penthouse Boiler 2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

Unit	Fuel	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
West Penthouse Boiler 1 (3.08 MMBtu/hr)	#2 oil	0.37	0.37	1.08	1.08	0.11	0.01
West Penthouse Boiler 2 (4.41 MMBtu/hr)	#2 oil	0.53	0.53	1.54	1.54	0.16	0.01
Bag Claim Penthouse Boiler 1 (3.04 MMBtu/hr)	#2 oil	0.36	0.36	1.06	1.06	0.13	0.01
	Nat'l Gas	0.006	0.006	0.002	0.30	0.25	0.02
Bag Claim Penthouse Boiler 2 (3.04 MMBtu/hr)	#2 oil	0.36	0.36	1.06	1.06	0.13	0.01
	Nat'l Gas	0.006	0.006	0.002	0.30	0.25	0.02
North Garage Snow Melt Boiler (1.35 MMBtu/hr)	Nat'l Gas	0.002	0.002	0.0008	0.13	0.11	0.01

D. Visible Emissions

1. Visible emissions from each boiler firing fuel oil shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period. [06-096 CMR 101]
2. Visible emissions from each boiler firing natural gas shall not exceed an opacity of 10% on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period. [06-096 CMR 101]

(17) **Emergency Generators – Pre-2006**

(West Penthouse Generator, Lightning Vault Generator, Bag Claim Penthouse Generator, North Garage Generator, and Maintenance Building Generator)

- A. The generators are each limited to 500 hours per year total operation, based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115]
- B. The fuel oil sulfur content for the West Penthouse Generator and the Lightning Vault Generator shall be limited to 0.35% sulfur. The fuel oil sulfur content for the Bag Claim Generator shall be limited to 0.05% sulfur. 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 shall not exceed the following [06-096 CMR 115, BPT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
West Penthouse Gen. (0.94 MMBtu/hr) #2 fuel oil, 0.35% S	0.28	0.28	0.32	4.05	0.87	0.33
North Garage Gen. (2.88 MMBtu/hr) Natural gas	0.36	0.36	0.002	12.10	0.94	0.36
Lighting Vault Gen. (2.5 MMBtu/hr) #2 fuel oil, 0.35% S	0.76	0.76	0.86	10.81	2.33	0.88
Bag Claim Penthouse Gen. (1.55 MMBtu/hr) #2 fuel oil, 0.05% S	0.47	0.47	0.08	6.71	1.44	0.55
Maintenance Bldg. Gen. (0.89 MMBtu/hr) Propane	0.01	0.01	0.089	3.63	0.28	0.11

D. Visible Emissions

1. Visible emissions from each of the diesel generators shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period. [06-096 CMR 101]
2. Visible emissions from each of the natural gas and propane fired generators shall not exceed an opacity of 10% on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period. [06-096 CMR 101]

E. The West Penthouse, Lightning Vault, Bag Claim Penthouse, North Garage, and Maintenance Building Emergency Generators shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:

1. No later than May 3, 2013, Portland International Jetport shall meet the following operational limitations for each of the compression ignition emergency generators (West Penthouse, Lightning Vault, and Bag Claim Penthouse Emergency Generators):
 - a. Change the oil and filter annually,
 - b. Inspect the air cleaner annually, and
 - c. Inspect the houses and belts annually and replace as necessary.

A log shall be maintained documenting compliance with the operational limitations.

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

2. No later than October 19, 2013, Portland International Jetport shall meet the following operational limitations for each of the spark ignition emergency generators (North Garage and Maintenance Building Emergency Generators):
 - a. Change the oil and filter annually,
 - b. Inspect the spark plugs annually, and
 - c. Inspect the hoses and belts annually and replace as necessary.

A log shall be maintained documenting compliance with the operational limitations.

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

3. A non-resettable hour meter shall be installed and operated on each generator. [40 CFR §63.6625(f)]
4. Maintenance, Testing, and Non-Emergency Operating Situations
 - a. The five generators shall each be limited to 100 hours/year for maintenance and testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving or generating income or a financial arrangement with another entity). A maximum of 15 hours per year (of the 50 hours/year) may be used as part of a demand response program. These limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §63.6640(f)(1) and 06-096 CMR 115]
 - b. Portland International Jetport shall keep records that include maintenance conducted on the five generators and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generators are used for demand response operation, Portland International Jetport must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 CFR §63.6655(e) and (f)]
5. The five generators shall be operated and maintained according to the manufacturer's emission-related written instructions or Portland International Jetport shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in

a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

(18) **Emergency Generators – Post-2006**
 (De-Icing Pad Generator and the New Terminal Generator)

A. The generators are each limited to 500 hours per year total operation, based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115]

B. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
De-icing Pad Generator	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
New Terminal Generator	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
De-icing Pad Gen. (4.69 MMBtu/hr) diesel, 0.00015% S	0.55	0.55	0.0069	20.24	4.36	1.65
New Terminal Gen. (7.49 MMBtu/hr) diesel, 0.00015% S	0.88	0.88	0.011	32.32	6.96	2.64

D. Visible emissions from each of the diesel generators shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

E. The De-Icing Pad and New Terminal Emergency Generators shall meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:

1. The two generators shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in §60.4202. [40 CFR §60.4205(b)]
2. The diesel fuel fired in the two generators shall not exceed 15 ppm sulfur (0.0015% sulfur). Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel

delivered and the sulfur content of the fuel. [40 CFR §60.4207(b) and 06-096 CMR 115]

3. A non-resettable hour meter shall be installed and operated on each generator. [40 CFR §60.4209(a)]
4. The two generators shall each be limited to 100 hours/year for maintenance and testing. This limit is based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4211(e) and 06-096 CMR 115]
5. The two generators shall be operated and maintained according to the manufacturer's written instructions or procedures developed by Portland International Jetport that are approved by the engine manufacturer. Portland International Jetport may only change those settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

(19) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [06-096 CMR 101]

(20) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 (as amended), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

- 1) A computer program and accompanying instructions supplied by the Department; or
- 2) A written emission statement containing the information required in 06-096 CMR 137.

The emission statement must be submitted as specified by the date in 06-096 CMR 137.

Portland International Jetport
Cumberland County
Portland, Maine
A-582-71-I-R/A (SM)

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Departmental
Findings of Fact and Order
Air Emission License

- (21) Portland International Jetport 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 9th DAY OF June, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Melanie L. Brooks*
JAMES P. BROOKS, ACTING COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 5, 2009
Date of application acceptance: March 10, 2009

Date filed with the Board of Environmental Protection:

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.



