



DEPARTMENT ORDER

**Wal-Mart Stores East, LP
Androscoggin County
Lewiston, Maine
A-1152-71-A-N**

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

FINDINGS OF FACT

After review of the air emission license 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

Wal-Mart Stores East, LP (Wal-Mart) has applied for an Air Emission License for the operation of emission sources associated with their retail distribution facility.

The equipment addressed in this license is located at 239 Goddard Road, Lewiston, Maine.

B. Title, Right, or Interest

In their application, Wal-Mart submitted copies of a property deed demonstrating ownership of the facility. Wal-Mart has provided sufficient evidence of title, right, or interest in the facility for purposes of this air emission license.

C. Emission Equipment

The following equipment is addressed in this air emission license:

Stationary Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (HP)	Fuel Type, % sulfur	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Generator #1	4.0	587	Distillate fuel, 0.0015%	29.2	2005	2005
Fire Pump #1	2.2	340	Distillate fuel, 0.0015%	16.0	2004	2005

Wal-Mart 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>

Additionally, Wal-Mart 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.

Distillate Fuel Storage Tanks

Equipment	Capacity (gal)	Date of Install.
Diesel UST #1*	20,000	2005
Diesel UST #2*	20,000	2008

* Included for completeness purposes, as the tanks are not subject to state or federal regulations required to be addressed in this license.

D. Application Classification

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

Wal-Mart is classified as an existing source that is applying for its first air emission license, after-the-fact.

A new source is considered a major source if total licensed annual emissions exceed the "Significant Emission" levels as defined in the Department's *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100.

Pollutant	Total Licensed Annual Emissions (TPY)	Significant Emission Levels
PM	0.2	100
PM ₁₀	0.2	100
SO ₂	0.0	100
NO _x	1.4	100
CO	0.3	100
VOC	0.2	50

The Department has determined the facility is a minor source, and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115.

E. Facility Classification

With the operating hours restriction on Generator #1 and Fire Pump #1, the facility is licensed as follows:

- As a synthetic minor source of air emissions, because Wal-Mart is subject to license restrictions that keep facility emissions below major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in 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 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. Generator #1 and Fire Pump #1

Wal-Mart operates one emergency generator. Generator #1 is a generator set consisting of an engine and an electrical generator. Generator #1 has an engine rated at 4.0 MMBtu/hr which fires distillate fuel. Generator #1 was manufactured in 2005.

Wal-Mart operates one fire pump. Fire Pump #1 has an engine rated at 2.2 MMBtu/hr which fires distillate fuel. Fire Pump #1 was manufactured in 2004.

1. BACT Findings

a. Particulate Matter (PM and PM₁₀)

PM emissions from distillate fuel-fired engines are generally controlled through proper operation and maintenance of the engines. Given the small size of the units (4.0 MMBtu/hr and 2.2 MMBtu/hr) and the operating time being limited to 100 hours, additional control for PM is not economically feasible.

BACT for PM/PM₁₀ emissions from Generator #1 and Fire Pump #1 shall be proper operation and maintenance of the units and emissions limits listed in the table below.

b. Sulfur Dioxide (SO₂)

For emergency engines that fire distillate fuel and operate for only short periods of time, the use of a wet scrubber or other additional SO₂ add-on control methods are not economically feasible considering the minimal emissions due to the limited use of the engines. The most practical method for limiting SO₂ emissions of such engines is the use of low sulfur fuel, such as distillate fuel with a sulfur content no greater than 0.0015% by weight.

BACT for SO₂ emissions from Generator #1 and Fire Pump #1 shall be the use of distillate fuel with a sulfur content no greater than 0.0015% by weight and SO₂ emissions limits listed in the table below.

c. Nitrogen Oxides (NO_x)

Potentially available control options for reducing NO_x emissions from distillate fuel-fired engines include combustion controls, selective catalytic reduction (SCR), and non-selective catalytic reduction (NSCR). Combustion controls are implemented through design features such as electronic engine controls, injection systems, combustion chamber geometry, and turbocharging systems.

SCR and NSCR are both post-combustion NO_x reduction technologies. SCR injects ammonia to react with NO_x in the gas stream in the presence of a catalyst to form nitrogen and water. NSCR uses a catalyst to convert CO, NO_x, and hydrocarbons into carbon dioxide, nitrogen, and water without the use of an additional reagent, and requires strict air-to-fuel control to maintain high reduction effectiveness without increasing hydrocarbon emissions. For units of this size (4.0 MMBtu/hr and 2.2 MMBtu/hr) and usage (emergency engines), neither SCR nor NSCR are economically feasible considering the small size of the units and the minimal emissions due to the limited use of the engines.

BACT for NO_x emissions from Generator #1 and Fire Pump #1 shall be the use of good combustion controls, proper operation and maintenance of the units, and the NO_x emissions limit listed in the table below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

CO and VOC emissions are a result of incomplete combustion, caused by conditions such as insufficient residence time or limited oxygen availability. CO and VOC emissions from distillate fuel-fired engines are generally controlled

through proper operation and maintenance. Oxidation catalyts have been used on larger engines to reduce CO and VOC emission levels in the exhaust, but, like SCR and NSCR, use of an oxidation catalyst on such small emergency engines with limited yearly use would not provide a significant environmental benefit and would not be economically feasible.

BACT for CO and VOC emissions from Generator #1 and Fire Pump #1 shall be proper operation and maintenance of the units and emission limits listed in the table below.

2. The BACT emission limits for Generator #1 and Fire Pump #1 are based on the following:

- PM/PM₁₀ - 0.12 lb/MMBtu from 06-096 C.M.R. ch. 103 for Generator #1; 06-096 C.M.R. ch. 115, BACT for Fire Pump #1
- SO₂ - 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 - 0.35 lb/MMBtu from AP-42 dated 10/96
- Visible Emissions - 06-096 C.M.R. ch. 115, BACT

3. The BACT emission limits for the engines are the following:

Unit	Pollutant	lb/MMBtu
Generator #1	PM	0.12

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.48	0.48	0.01	17.64	3.80	1.40
Fire Pump #1	0.26	0.26	neg.	9.67	2.08	0.77

4. Visible emissions from Generator #1 and Fire Pump #1 shall each not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time Wal-Mart may comply with the following work practice standards in lieu of the numerical visible emissions standard.
 - a. Maintain a log (written or electronic) of the date, time, and duration of all engine startups.
 - b. Operate the engines in accordance with the manufacturer's emission-related operating instructions.

- c. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply.
- d. Operate the engines, including any associated air pollution control equipment, at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.

5. 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]

6. 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 not applicable to the emergency engines listed above. The units are considered existing, emergency stationary reciprocating internal combustion engines at an area HAP source. However, they are considered exempt from the requirements of 40 C.F.R. Part 63, Subpart ZZZZ since they are categorized as commercial emergency engines and they do not operate or are not contractually obligated to be available in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 63.6640(f)(4)(ii).

Operation of any emergency engine in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 63.6640(f)(4)(ii), would cause the engine to be subject to 40 C.F.R. Part 63, Subpart ZZZZ and require compliance with all applicable requirements.

C. Storage Tanks

Wal-Mart has two underground distillate fuel storage tanks with a storage volume of 20,000 gallons each that were installed in 2005 and 2008. As these tanks are underground, there are no standing losses to consider and the total expected working loss is less than 20 lb/year each. This classifies the tanks as insignificant per 06-096 C.M.R. ch. 115, Appendix B (B)(1).

Due to the size and low true vapor pressure of the material stored in the tanks, the New Source Performance Standards (NSPS) *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*, 40 C.F.R. Subpart Kb is not applicable per 40 C.F.R. § 60.110b (b).

D. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.

E. General Process Emissions

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis.

F. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee. Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included. Maximum potential emissions were calculated based on the following assumptions:

- Operating Generator #1 and Fire Pump #1 for 100 hrs/yr each.

Please note, this information provides the basis for fee calculation only and should not be construed to represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

**Total Licensed Annual Emissions for the Facility
Tons/year**

(used to calculate the annual license fee)

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Generator #1	0.1	0.1	neg.	0.9	0.2	0.1
Fire Pump #1	0.1	0.1	neg.	0.5	0.1	0.1
Total TPY	0.2	0.2	neg.	1.4	0.3	0.2

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

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

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-1152-71-A-N subject to the following conditions.

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

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. 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 C.F.R. 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 C.M.R. ch. 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 the written test report by the Department, or another alternative timeframe approved by the Department, 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 C.F.R. 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 C.M.R. ch. 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 license requirement. [06-096 C.M.R. ch. 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 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 C.M.R. ch. 115]
- (16) The licensee 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. § 605). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(17) **Generator #1 and Fire Pump #1**

- A. Generator #1 and Fire Pump #1 shall each be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations.
[06-096 C.M.R. ch. 115, BACT]

- B. Wal-Mart 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 the engine was in operation during each time. [06-096 C.M.R. ch. 115, BACT]
- C. The fuel sulfur content for Generator #1 and Fire Pump #1 shall be limited to 0.0015% sulfur by weight. Compliance 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. [06-096 C.M.R. ch. 115, BACT]
- D. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.48	0.48	0.01	17.64	3.80	1.40
Fire Pump #1	0.26	0.26	--	9.67	2.08	0.77

- F. Visible Emissions

Visible emissions from Generator #1 and Fire Pump #1 shall each not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time Wal-Mart may comply with the following work practice standards in lieu of the numerical visible emissions standard. [06-096 C.M.R. ch. 115, BACT]

1. Maintain a log (written or electronic) of the date, time, and duration of all engine startups.
2. Operate Generator #1 and Fire Pump #1 in accordance with the manufacturer's emission-related operating instructions.
3. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply.

4. Operate Generator #1 and Fire Pump #1, including any associated air pollution control equipment, at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.

- G. Emergency generators and/or fire pumps are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency generators and/or fire pumps are not to be used for prime power when reliable offsite power is available; nor to operate or to be contractually obligated to be available in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity.
[06-096 C.M.R. ch. 115, BPT]

(18) Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.
[06-096 C.M.R. ch. 115, BPT]

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**Departmental
Findings of Fact and Order
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(19) **General Process Sources**

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 6th DAY OF NOVEMBER, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for
MELANIE LOYZIM, ACTING COMMISSIONER

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

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 10/8/20

Date of application acceptance: 10/9/20

Date filed with the Board of Environmental Protection:

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

