



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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GOVERNOR

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COMMISSIONER

Backyard Farms, LLC
Somerset County
Madison, Maine
A-937-71-J-R (SM)

Departmental
Findings of Fact and Order
Air Emission License
Renewal

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

I. REGISTRATION

A. Introduction

1. Backyard Farms, LLC (Backyard Farms) has applied to renew their Air Emission License permitting the operation of emission sources associated with their greenhouse facility.
2. The equipment addressed in this license is located at 131 River Road, Madison, ME.

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>
Boiler #P1	49.4	546 gal/hr 48431 scf/h 353 gal/hr	Propane Natural Gas, #2, Diesel - 0.0015%	2006	1
Boiler #P2	49.4	546 gal/hr 48431 scf/h 353 gal/hr	Propane Natural Gas, #2, Diesel - 0.0015%	2006	2
Boiler #P3	49.4	546 gal/hr 48431 scf/h 353 gal/hr	Propane Natural Gas, #2, Diesel - 0.0015%	2009	3

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04679-2094
(207) 764-0477 FAX: (207) 760-3143

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type</u>	<u>Installation Date</u>	<u>Stack #</u>
Vaporizer #1	1.14	Propane	2006	6
Vaporizer #2	1.14	Propane	2006	7

Generators

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Installation Date</u>	<u>Stack #</u>
Generator #1	4.6	Diesel, 0.0015% S	2006	4
Generator #2	5.1	Diesel, 0.0015% S	2009	5

C. Application Classification

The application for Backyard Farms does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended). With the emissions limits on Boilers #P1, #P2 and #P3, and the operating hours restriction on the 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.

B. Boilers #P1, #P2 and #P3

Backyard Farms operates the three boilers for heat. The boilers are each rated at 49.4 MMBtu/hr and are licensed to fire propane, natural gas, and #2 fuel oil and diesel fuel with a maximum sulfur content of 0.5%. Backyard Farms is proposing to reduce the allowable sulfur content of liquid fuel to 0.0015%.

Boilers #P1 and #P2 were installed in 2006; Boiler #P3 was installed in 2009. All three boilers are Dutch manufactured, packaged, fire tube units and each boiler exhausts through its own, 38-foot AGL stack - Stacks #1, #2 and #3, respectively.

Due to their size and year of installation, the three boilers are 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. BPT Findings

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

The three boilers and two propane vaporizers shall be limited to a combined heat input of 550,000 MMBtu (million British thermal units) per year on a 12-month rolling total.

Firing Propane:

PM/PM ₁₀	– 0.0066 lb/MMBtu, (BACT, A-937-71-H-M)
SO ₂	– 0.0003 lb/MMBtu, (BACT, A-937-71-H-M)
NO _x	– 0.091 lb/MMBtu, (BACT, A-937-71-H-M)
CO	– 0.035 lb/MMBtu, (BACT, A-937-71-H-M)
VOC	– 0.003 lb/MMBtu, (BACT, A-937-71-H-M)
Opacity	– Visible emissions from each of the boilers firing propane shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a three (3) hour period.

The BPT emission limits for the boilers firing propane are the following:

<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>
Boiler #P1	0.49	0.49	0.01	4.50	1.75	0.16
Boiler #P2	0.49	0.49	0.01	4.50	1.75	0.16
Boiler #P3	0.49	0.49	0.01	4.50	1.75	0.16

Firing Natural Gas:

- PM/PM₁₀ – 0.01 lb/MMBtu (BACT, A-937-71-H-M)
- SO₂ – 0.0006 lb/MMBtu (AP-42, 07/98)
- NO_x – 0.098 lb/MMBtu (AP-42, 07/98)
- CO – 0.082 lb/MMBtu (AP-42, 07/98)
- VOC – 0.005 lb/MMBtu (AP-42, 07/98)
- Opacity – Visible emissions from each of the boilers firing natural gas shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a three (3) hour period.

The BPT emission limits for the boilers firing natural gas are the following:

<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>
Boiler #P1	0.49	0.49	0.03	4.84	4.07	0.27
Boiler #P2	0.49	0.49	0.03	4.84	4.07	0.27
Boiler #P3	0.49	0.49	0.03	4.84	4.07	0.27

Firing #2 Fuel Oil or Diesel Fuel:

- PM/PM₁₀ – 0.08 lb/MMBtu (BACT, A-937-71-G-M)
- SO₂ – 0.0015lb/MMBtu, mass balance
- NO_x – 0.30 lb/MMBtu (BACT, A-937-71-G-M)
- CO – 0.036 lb/MMBtu (AP 42, 05/10)
- VOC – 0.001 lb/MMBtu (AP 42, 05/10)
- Opacity – Visible emissions from each of the boilers firing #2 fuel oil or diesel fuel shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a three (3) hour period.

The BPT emission limits for the boilers firing #2 fuel oil or diesel fuel are the following:

<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>
Boiler #P1	3.95	3.95	0.08	14.82	1.76	0.07
Boiler #P2	3.95	3.95	0.08	14.82	1.76	0.07
Boiler #P3	3.95	3.95	0.08	14.82	1.76	0.07

The facility shall fire #2 fuel oil and diesel fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm).

2. 40 CFR Part 63 Subpart JJJJJ

Boilers #P1, #P2 and #P3 each meet the definition of a “gas-fired boiler” contained in the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ), therefore these units are not subject to the requirements of Subpart JJJJJ.

C. Propane Vaporizers #1 and #2

Backyard Farms operates two, propane-fired, propane vaporizers, to provide heat to change liquid propane to its gaseous state before it is delivered to the boilers for use as their fuel. The vaporizers were installed in 2006, are each rated at 1.14 MMBtu/hour, and each exhausts to its own stack.

BPT Findings

The BPT emissions for the vaporizers are based on the following:

- PM/PM₁₀ – 0.05 lb/MMBtu, based on BACT
- NO_x – 13 lb/10³ gallons, AP 42, T1.5-1, 07/08
- CO – 7.5 lb/10³ gallons, AP 42, T1.5-1, 07/08
- VOC – 0.8 lb/10³ gallons, AP 42, T1.5-1, 07/08
- Opacity – Visible emissions from each of the vaporizers shall not exceed 10% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a three (3) hour period.

The BPT emission limits for the vaporizers are the following:

<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>
Vaporizer #1	0.06	0.06	0.001	0.16	0.09	0.01
Vaporizer #2	0.06	0.06	0.001	0.16	0.09	0.01

D. Generators #1 and #2

Backyard Farms operates two, diesel-fired generators: Generator #1 is rated at 4.6 MMBtu/hr; Generator #2 is rated at 5.1 MMBtu/hr. Generator #1 was manufactured and installed in 2006; Generator #2 was manufactured in 2008 and installed in 2009.

BPT Findings

The BPT emission limits for Generator #1 are based on the following:

- 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 – 1.29 lb/MMBtu, Manufacturer's
 Guaranteed Not To Exceed (GNTE) Factor
- CO – 0.174 lb/MMBtu, Manufacturer's GNTE
- VOC – 0.026 lb/MMBtu, Manufacturer's GNTE
- Opacity – Visible emissions from Generator #1 shall 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 three (3) hour period.

The BPT emission limits for Generator #2 are based on the following:

- PM/PM₁₀ – 0.012 lb/MMBtu, Manufacturer's
 Guaranteed Not To Exceed (GNTE) Factor
- SO₂ – 0.0015 lb/MMBtu based on firing 0.0015% sulfur
- NO_x – 2.286 lb/MMBtu, Manufacturer's GNTE
- CO – 0.245 lb/MMBtu, Manufacturer's GNTE
- VOC – 0.025 lb/MMBtu, Manufacturer's GNTE
- Opacity – Visible emissions from Generator #2 shall 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 three (3) hour period.

The BPT emission limits for Generators #1 and #2 are the following:

<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>
Generator #1	0.55	0.55	0.01	5.93	0.80	0.12
Generator #2	0.06	0.06	0.008	11.66	1.25	0.03

Each of the generators shall be limited to 500 hours of operation a year, based on a 12-month rolling total. Backyard Farms shall keep records of the hours of operation for each unit.

40 CFR Part 60, Subpart III

The federal regulation 40 CFR Part 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* (CI ICE) is applicable to the generators listed above since the units were ordered after July 11, 2005 and manufactured after April 1, 2006. By meeting the requirements of Subpart III, the units are not subject to the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ.

Backyard Farms has entered into an agreement with ISO-New England calling for Backyard Farms to operate the generators under certain electric power demand conditions. Based on the financial agreement with ISO-NE, the generators currently do not meet the definition of emergency stationary internal combustion engine as defined in Subpart III:

Emergency Definition:

Emergency stationary internal combustion engine is defined in 40 CFR Part 60, Subpart III 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.

The two generators therefore are subject to the Subpart III requirements applicable to non-emergency engines.

40 CFR Part 60, Subpart III Requirements:

Generator #1: Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emissions standards in Table 1 of the subpart. [40 CFR §60.4204(a)]

Generator #2: Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable. [40 CFR §60.4204(b)]

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

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

No initial notification is required for Generators #1 and #2. [40 CFR §60.4214(a)]

E. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than five (5) minutes in any one (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. General Process Emissions

Visible emissions from any general process source shall not exceed 20% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a one (1) hour period.

G. Annual Emissions

Backyard Farms shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons-per-year limits are based on the emission limits on the boilers and vaporizers, and the operating hours limits on the generators:

Total Licensed Annual Emissions for the Facility
Tons per Year
(Used to calculate the annual license fee)

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boilers #P1, #P2, #P3, and Vaporizers #1 and #2	22.0	22.0	0.4	82.5	22.7	1.5
Generators #1 & #2	0.2	0.2	0.1	4.4	0.5	0.1
Total TPY	22.2	22.2	0.5	86.9	23.2	1.6

Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011 through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. "Greenhouse gases" as defined in 06-096 CMR 100 (as amended) means the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Greenhouse gases (GHG) for purposes of licensing are calculated and reported as carbon dioxide equivalents (CO₂e).

Based on the facility's fuel use limits, the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, Backyard Farms is below the major source threshold of 100,000 tons of CO₂e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

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 is not required for a renewal if the total emissions of any pollutant released do not exceed the following and there are no extenuating circumstances:

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

Based on the total facility licensed emissions, Backyard Farms is below the emissions level required for modeling.

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-937-71-J-R 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-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

- 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) **Boiler #P1, #P2 and #P3**

A. Fuel

1. Total fuel use for Boilers #P1, #P2 and #P3 and Propane Vaporizers #1 and #2, combined, shall not exceed heat input of 550,000 MMBtu per year, based on a 12-month rolling total. Boilers #P1, #P2 and #P3 may fire propane, natural gas, #2 fuel oil and diesel fuel. [BPT, 06-096 CMR 115]
2. The facility shall fire #2 fuel oil and diesel fuel with a maximum sulfur content of 0.0015% by weight (15ppm). [06-096 CMR 115, BPT]
3. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual fuel use shall be kept on a monthly and 12-month rolling total basis. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following when firing propane or natural gas:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #P1	PM	0.01	06-096 CMR 115, BACT
Boiler #P2	PM	0.01	06-096 CMR 115, BACT
Boiler #P3	PM	0.01	06-096 CMR 115, BACT

C. Emissions shall not exceed the following when firing #2 or diesel fuel:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #P1	PM	0.08	06-096 CMR 115, BACT
Boiler #P2	PM	0.08	06-096 CMR 115, BACT
Boiler #P3	PM	0.08	06-096 CMR 115, BACT

D. Emissions shall not exceed the following when firing propane: [06-096 CMR 115, BPT]

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #P1	0.49	0.49	0.01	4.50	1.75	0.16
Boiler #P2	0.49	0.49	0.01	4.50	1.75	0.16
Boiler #P3	0.49	0.49	0.01	4.50	1.75	0.16

E. Emissions shall not exceed the following when firing natural gas: [06-096 CMR 115, BPT]

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #P1	0.49	0.49	0.03	4.84	4.07	0.27
Boiler #P2	0.49	0.49	0.03	4.84	4.07	0.27
Boiler #P3	0.49	0.49	0.03	4.84	4.07	0.27

- F. Emissions shall not exceed the following when firing #2 fuel oil or diesel fuel: [06-096 CMR 115, BPT]

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #P1	3.95	3.95	0.08	14.82	1.76	0.07
Boiler #P2	3.95	3.95	0.08	14.82	1.76	0.07
Boiler #P3	3.95	3.95	0.08	14.82	1.76	0.07

- G. Visible emissions from Boilers #P1, #P2 and #P3 shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101, BPT]
- H. Backyard Farms shall comply with all requirements of 40 CFR Part 60, Subpart Dc applicable to Boilers #P1, #P2 and #P3 including, but not limited to, the following:
1. Backyard Farms shall record and maintain records of the amounts of each fuel combusted during each calendar month. [40 CFR §60.48c(g)(2)]
 2. Backyard Farms shall submit to EPA and the Department semi-annual reports. These reports shall include the calendar dates covered in the reporting period and records of fuel supplier certifications. The semi-annual reports are due within 30 days of the end of each 6-month period.
 3. The following address for EPA shall be used for any reports or notifications required to be copied to them:
Compliance Clerk
USEPA Region 1
5 Post Office Sq., Suite 100
Boston, MA 02109-3912

(17) Propane Vaporizers #1 and #2

- A. The two propane vaporizers shall fire only propane.
- B. Emissions from the propane vaporizers shall not exceed the following:

<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>
Vaporizer #1	0.06	0.06	0.001	0.16	0.09	0.01
Vaporizer #2	0.06	0.06	0.001	0.16	0.09	0.01

- C. Visible emissions from each of the propane vaporizers shall not exceed 10% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous three (3) hour period. [06-096 CMR 101]

(18) Generators #1 and #2

- 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:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Generator #1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Generator #2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

<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>
Generator #1	0.55	0.55	0.01	5.93	0.80	0.12
Generator #2	0.06	0.06	0.008	11.66	1.25	0.03

- D. Visible emissions from each of the diesel generators shall 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 three (3) hour period. [06-096 CMR 101]

- E. The generators shall meet the applicable requirements of 40 CFR Part 60, Subpart III, including the following:
1. Generator #1: Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emissions standards in Table 1 of the subpart. [40 CFR 60 §60.4204(a)]
 2. Generator #2: Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable. [40 CFR 60 §60.4204(b)]
 3. The diesel fuel fired in the generators shall not exceed 15 ppm sulfur (0.0015% sulfur by weight). Compliance with the 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]
 4. The generators shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by Backyard Farms that are approved by the engine manufacturer. Backyard Farms may only change those emission-related 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 of 20% opacity, except for no more than five (5) minutes in any one (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) **General Process Sources**

Visible emissions from any general process source shall not exceed 20% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a one (1) hour period. [06-096 CMR 101]

Backyard Farms, LLC
Somerset County
Madison, Maine
A-937-71-J-R

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Departmental
Findings of Fact and Order
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Renewal

- (21) Backyard Farms 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 5th DAY OF July, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie Bzitec
PATRICIA W. AHO, COMMISSIONER

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

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

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 01/25/2011
Date of application acceptance: 01/25/2011

Date filed with the Board of Environmental Protection:

This Order prepared by N. Lynn Cornfield, Bureau of Air Quality.

