



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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DEPARTMENT ORDER

Pineland Farms Potato Company, Inc.
Aroostook County
Mars Hill, Maine
A-911-71-J-M

Departmental
Findings of Fact and Order
Air Emission License
Amendment #2

Findings of Fact

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

I. Registration

A. Introduction

Pineland Farms Potato Company, Inc. (Pineland) was issued Air Emission License A-911-71-H-R/M on March 31, 2017, for the operation of emission sources associated with their potato processing facility. The license was subsequently amended on July 17, 2023 (A-911-71-I-M) remove Peeler #1 and its single stack for process lines #1 and #2 and replace them with an individual peeler and stack for each process line.

The equipment addressed in this license amendment is located at 115 Presque Isle Rd, Mars Hill, Maine.

Pineland has requested an amendment to their license in order to replace natural gas with propane as a licensed fuel for Boiler #2.

This license completes the processing of an application with the following submission number as assigned by the Department: 603383 (accepted 05/12/2026).

B. Emission Equipment

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

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Boiler #2	20.4	146 gal/hr	Distillate fuel	2004	2005	2
Boiler #2	20.9	229 gal/hr	Propane	2004	2005	2

C. Application Classification

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

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

Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emissions Levels
PM	8.8	8.8	0.0	100
PM ₁₀	8.8	8.8	0.0	100
PM _{2.5}	8.8	8.8	0.0	100
SO ₂	55.4	0.2*	-55.2	100
NO _x	33.0	33.0	0.0	100
CO	8.1	9.0	0.9	100
VOC	0.6	1.2	0.6	100

* The reduction in licensed SO₂ emissions reflects the lowering of the allowed sulfur content of distillate fuel to no more than 0.0015% pursuant to 38 M.R.S. § 603-A(2)(A)(3).

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

D. Facility Classification

With the annual fuel limit on the boilers, the facility is licensed as follows:

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

II. **Best Practical Treatment (BPT)**

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

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

B. Boiler #2

Pineland has proposed to eliminate natural gas as a fuel for Boiler #2 and replace it with propane. The change in burner configurations results in a slightly higher firing rate of 20.9 MMBtu/hr when firing propane compared to the 20.4 MMBtu/hr firing rate of distillate fuel. Boiler #2 will continue to be subject to the annual heat input limit of 219,900 MMBtu/year on a 12-month rolling total basis for both Boilers #1 and #2 for all fuels fired.

1. BACT Findings

The following is a BACT analysis for control of emissions from Boiler #2 when firing propane.

a. Particulate Matter (PM, PM₁₀, PM_{2.5})

Pineland has proposed to burn only low-ash content fuels (propane and distillate fuel) in Boiler #2. Additional PM, PM₁₀, and PM_{2.5} controls are not economically feasible for the combustion of propane in this boiler.

BACT for PM/PM₁₀/PM_{2.5} emissions from Boiler #2 when firing propane are emission limits listed in the tables below.

b. Sulfur Dioxide (SO₂)

The firing of propane in Boiler #2 results in minimal emissions of SO₂, and additional add-on pollution controls are not economically feasible.

BACT for SO₂ emissions from Boiler #2 when firing propane are the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)

Pineland considered several control strategies for the control of NO_x including Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), water/steam injection, flue gas recirculation (FGR), and low-NO_x Burners.

Both SCR and SNCR are technically feasible control technologies for minimizing NO_x. Both methods include injection of a NO_x reducing agent, typically ammonia or urea, into the boiler combustion gases, where the reagent reacts with NO_x to form nitrogen and water. Each technology is effective within a specific temperature range, 500 – 1,200 °F for SCR and 1,400 – 1,600 °F for SNCR. However, both SCR and SNCR have the negative environmental impact of emissions of unreacted ammonia. In addition, due to the initial capital cost and the annual operating costs, these systems are typically only considered cost effective for units larger than Boiler #2.

Water/steam injection can attain NO_x reduction through lowering burner flame temperature and thereby reducing thermal NO_x formation. However, this strategy reduces the boiler's fuel efficiency and was therefore eliminated as not economically feasible.

Low-NO_x burners are not available as part of this burner retrofit, and an oxygen trim system has been determined to be feasible and has been selected as part of the BACT strategy.

BACT for NO_x emissions from Boiler #2 is the use of FGR and an oxygen trim system and the emission limits listed in the tables below.

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

Pineland considered several control strategies for the control of CO and VOC including oxidation catalysts, thermal oxidizers, and use of an oxygen trim system.

Oxidation catalysts and thermal oxidizers both have high capital, maintenance, and operational costs considering the size of the boiler in question. These controls were determined to be economically infeasible.

The use of an oxygen trim system has been determined to be feasible and has been selected as part of the BACT strategy for Boiler #2.

BACT for CO and VOC emissions from Boiler #2 is the use of an oxygen trim system and the emission limits listed in the tables below.

e. Emission Limits

The BACT emission limits for Boiler #2 when firing propane were based on the following:

Propane

PM/ PM₁₀/PM_{2.5} – 0.05 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
SO₂ – 0.054 lb/10³gal based on AP-42 Table 1.5-1 dated 5/25
NO_x – 13 lb/10³gal based on AP-42 Table 1.5-1 dated 5/25
CO – 7.5 lb/10³gal based on AP-42 Table 1.5-1 dated 5/25
VOC – 1 lb/10³gal based on AP-42 Table 1.5-1 dated 5/25
Visible – 06-096 C.M.R. ch. 101
Emissions

The BACT emission limits for Boiler #2 when firing propane are the following:

Unit	Pollutant	lb/MMBtu
Boiler #2 Propane	PM	0.05

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #2 Propane	1.05	1.05	1.05	0.12	2.98	1.72	0.23

2. Visible Emissions

Visible emissions from Boiler #2 when firing propane shall not exceed 10% opacity on a six-minute block average basis.

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

The conversion of Boiler #2 to fire propane in lieu of natural gas will change none of the requirements of Subpart Dc which are already outlined in the facility's air emission license.

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

The conversion of Boiler #2 to fire propane in lieu of natural gas will change none of the requirements of Subpart JJJJJJ which are already outlined in the facility's air emission license.

C. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on a facility-wide fuel limit of 219,900 MMBtu/yr:

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

Total Licensed Annual Emissions for the Facility
Tons/year

(used to calculate the annual license fee)

	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC
Boilers	8.8	8.8	8.8	0.2	33.0	9.0	1.2
Total TPY	8.8	8.8	8.8	0.2	33.0	9.0	1.2

Pollutant	Tons/year
Single HAP	7.9
Total HAP	19.9

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
PM _{2.5}	15
SO ₂	50
NO _x	50
CO	250

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

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

Order

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

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

The Department hereby grants Air Emission License Amendment A-911-71-J-M subject to the conditions found in Air Emission License A-911-71-H-R/M, in amendment A-911-71-I-M, and the following conditions.

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

Specific Conditions

The following shall replace Condition (16)(A), (B), (C), and (E) of Air Emission License A-911-71-H-R/M with Condition (16)(H) being a new condition:

(16) Boilers #1 and #2

A. Fuel

1. Annual heat input to Boiler #1 and Boiler #2 combined shall be limited to 219,900 MMBtu/year based on a 12 month-rolling total basis.
2. Using a heating value of 0.14 MMBtu/gal for distillate fuel and 0.0915 MMBtu/gal for propane, the following calculation shall be used to calculate monthly heat input:
$$\left[\frac{\text{gallons distillate}}{\text{month}} \right] \left[\frac{0.14 \text{ MMBtu}}{\text{gallons distillate}} \right] + \left[\frac{\text{gal propane}}{\text{month}} \right] \left[\frac{0.0915 \text{ MMBtu}}{\text{gal propane}} \right] = \frac{\text{MMBtu Heat Input}}{\text{month}}$$

[06-096 C.M.R. ch. 115, BPT]
3. Prior to July 1, 2018, the facility shall fire distillate fuel with a maximum sulfur content not to exceed 0.5% by weight. [06-096 C.M.R. ch. 115, BPT]
4. Beginning July 1, 2018, the facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BPT]
5. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable) and calculation of monthly and 12 month rolling total heat input. Records of annual fuel use shall be kept on a monthly and 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1 Distillate fuel	PM	0.08	06-096 C.M.R. ch. 115, BPT
Boiler #2 Distillate fuel	PM	0.08	06-096 C.M.R. ch. 115, BPT
Boiler #2 Propane	PM	0.05	06-096 C.M.R. ch. 115, BACT

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

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 Distillate fuel	0.67	0.67	0.67	4.21	2.51	0.30	0.20
Boiler #2 Distillate fuel	1.63	1.63	1.63	10.27	6.12	0.73	0.03
Boiler #2 Propane	1.05	1.05	1.05	0.12	2.98	1.72	0.23

E. Visible emissions from Boiler #2 when firing Propane shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(A)(3)]

H. Boiler #2 shall be equipped with FGR and an oxygen trim system while firing propane. [06-096 C.M.R. ch. 115, BACT]

Done and Dated in Augusta, Maine this 6th day of OCTOBER, 2026.

Department of Environmental Protection

BY:


for Melanie Loyzim, Commissioner

The term of this license amendment shall be ten (10) years from the issuance of Air Emission License A-911-71-H-R/M (issued 03/31/2017).

[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: 4/29/26

Date of application acceptance: 5/12/26

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