



DEPARTMENT ORDER

**Barber Foods, LLC
Cumberland County
Portland, Maine
A-569-71-N-M**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #1**

FINDINGS OF FACT

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

I. REGISTRATION

A. Introduction

Barber Foods, LLC (Barber Foods) was issued Air Emission License A-569-71-M-R on October 31, 2016, for the operation of emission sources associated with chicken processing equipment located at their facility.

Barber Foods has requested an amendment to their license to add one gas-fired unit heater that was inadvertently omitted from their current license, and to correct the heat input rating of an existing fryer oil heater that is already included in the license. Barber Foods also requested removal of the annual fuel limit from their license.

The equipment addressed in this license amendment is located at 54 St. John Street, Portland, Maine.

B. Emission Equipment

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

Fuel Burning Equipment

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate (scfh)	Fuel Type, % sulfur	Date of Manuf.	Date of Install.	Stack #
Maintenance Shop Heater #1	3.0	2,941	Natural Gas, N/A	Unknown	Unknown	MH1
Fryer #3 Oil Heater	2.3	2,255	Natural Gas, N/A	Unknown	Unknown	FB3

C. Application Classification

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

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

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Significant Emission Levels
PM	10.4	10.5	0.1	100
PM ₁₀	10.4	10.5	0.1	100
SO ₂	0.1	0.1	0.0	100
NO _x	19.4	20.4	1.0	100
CO	16.3	17.1	0.8	100
VOC	6.2	6.7	0.5	50

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

D. Facility Classification

The facility is licensed as follows:

- As a natural minor source of air emissions, because no license restrictions are necessary to keep the facility's 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 *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

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 *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. Maintenance Shop Heater #1

Barber Foods operates the Maintenance Shop Heater #1 for room heat. The heater is rated at 3.0 MMBtu/hr and fires natural gas. This heater is currently installed and in service but has never been listed in any of the previous air emission licenses. As such, it is considered a new source and is subject to BACT requirements.

1. BACT Findings for Maintenance Shop Heater #1

a. Particulate Matter: PM / PM₁₀

Particulate matter emissions from natural gas-fired heaters of this size are generally controlled through their proper operation and maintenance. The Department finds that BACT for PM / PM₁₀ emissions from the Maintenance Shop Heater #1 shall be the firing of natural gas and the proper operation and maintenance of the heater.

b. Sulfur Dioxide: SO₂

SO₂ emissions from fuel burning equipment are directly related to the quantity of the fuel being fired and its sulfur content. The Maintenance Shop Heater #1 will fire natural gas exclusively, which is inherently low in sulfur content. Therefore, the BACT for SO₂ for this heater is to only fire natural gas and to properly operate and maintain the unit.

c. Nitrogen Oxides: NO_x

The primary control option that is available for reducing NO_x emissions from natural gas-fired heaters of this size are low NO_x burners. Other options such as SCR and NSCR are not economically viable for these applications, as their cost to purchase and operate far exceed those of the heater. Additionally, heaters of this size are not typically manufactured with the provisions required to add this type of control equipment.

The size of the Maintenance Shop Heater #1, combined with its seasonal use and the minimal reduction in NO_x emissions that would be realized from installing a new low NO_x burner in the heater makes this retrofit installation economically infeasible and unjustified. Therefore, the Department finds that BACT for NO_x emissions from this heater shall be its proper operation and maintenance in accordance with the manufacturer's written instructions.

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

CO and VOC emissions result from incomplete fuel combustion, generally caused by conditions resulting from improper operation and/or maintenance of the unit. BACT for CO and VOC emissions from this heater shall be the use of proper operation and maintenance practices by the facility.

The BACT emission limits for Maintenance Shop Heater #1 were based on the following:

Natural Gas

PM/PM ₁₀	- 0.01 lb/MMBtu, from Air Emission License A-569-71-K-R/A dated 4/05/10, BACT
SO ₂	- 0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
NO _x	- 100 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
CO	- 84 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
VOC	- 5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
Visible Emissions	- 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for the Maintenance Shop Heater #1 are the following:

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Maintenance Shop Heater #1 Natural Gas 3.0 MMBtu/hr	0.03	0.03	0.002	0.29	0.24	0.02

Visible emissions from the heater shall not exceed 10% opacity on a six-minute block average basis.

2. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

Subpart Dc applies to specifically to steam generating units that were constructed, modified or reconstructed after June 9, 1989 and have a maximum heat input capacity of 100 megawatts (MW) or less, but greater than or equal to 10 MW. The Maintenance Shop Heater #1 is a direct heater that is used to heat air in the maintenance shop for building heat, and is not used to produce steam or to heat water or any other heat transfer medium. Therefore, the Maintenance Shop Heater #1 is not a steam generating unit by definition, and is not subject to the requirements of Subpart Dc. [40 C.F.R. § 60.40c(a) and § 60.41c]

3. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJ – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*

Subpart JJJJJ applies to industrial, commercial and institutional boilers that are located at, or are part of, an area source of hazardous air pollutants (HAP), with some exceptions. The Maintenance Shop Heater #1 is not a boiler as defined in Subpart JJJJJ because it does not heat water to recover thermal energy in the form of steam and/or hot water. Therefore, it is not subject to the requirements of Subpart JJJJJ. [40 C.F.R. § 63.11193 and § 63.11237]

C. Fryer #3 Oil Heater

Fryer #3 Oil Heater is used to heat the cooking oil for Fryer #3 and fires on natural gas. It first appeared in air emission license A-569-71-I-M/R and was listed as having a heat input capacity of 3.0 MMBtu/hr and a firing rate of 3,000 scfh. Barber Foods has recently determined that the actual heat input capacity of this heater is 2.3 MMBtu/hr, with an associated firing rate of 2,255 scfh. The BPT requirements for Fryer #3 Oil Heater remain unchanged from the previous air emission license. Only the magnitudes of the hourly mass emission limits are affected.

Emission limits for the Fryer #3 Oil Heater are based on the following:

Natural Gas

PM/PM ₁₀	– 0.01 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
SO ₂	– 0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
NO _x	– 100 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
CO	– 84 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
VOC	– 5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
Visible Emissions	– 06-096 C.M.R. ch. 115, BACT

The BPT emission limits for the Fryer #3 Oil Heater 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>
Fryer #3 Oil Heater Natural Gas 2.3 MMBtu/hr	0.02	0.02	0.001	0.22	0.19	0.01

D. Annual Emissions

Barber Foods shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on the fuel burning equipment operating 8,760 hours per year and the fryers operating 16 hours per day, 5 days per week, and 52 weeks per year.

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers #1, #2, #3, #4 and #5	1.39	1.39	0.08	13.62	11.44	0.75
Fryer #3 Oil Heater	0.10	0.10	0.01	0.98	0.82	0.05
Maintenance Unit Heater #1	0.13	0.13	0.01	1.28	1.07	0.07
Fryers #2 and #3	3.33	3.33				4.16
Air Handling Units #1, #2 and #3	5.56	5.56	0.03	4.50	3.78	0.25
Metal Parts Washer						1.38
Total TPY	10.5	10.5	0.1	20.4	17.1	6.7

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 Amendment A-569-71-N-M subject to the conditions found in Air Emission License A-569-71-M-R and the following conditions.

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

SPECIFIC CONDITIONS

The following shall replace Specific Condition (16) of Air Emission License A-569-71-M-R (dated October 31, 2016) in its entirety:

(16) Fuel Burning Equipment

A. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Air Handling Units #1, #2 and #3	PM	0.12	06-096 C.M.R. ch. 103 (2)(B)(1)(a), 06-096 C.M.R. ch. 115, BPT
Boilers #1, #2, #3, #4 and #5, Fryer #3 Oil Heater, and Maintenance Shop Heater #1	PM	0.01	A-569-71-K-R/A (dated 04/05/2010), 06-096 C.M.R. ch. 115, BPT and BACT

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 Natural Gas	0.05	0.05	0.003	0.50	0.42	0.03
Boiler #2 Natural Gas	0.05	0.05	0.003	0.50	0.42	0.03
Boiler #3 Natural Gas	0.03	0.03	0.002	0.31	0.26	0.02
Boiler #4 Natural Gas	0.09	0.09	0.005	0.90	0.76	0.05
Boiler #5 Natural Gas	0.09	0.09	0.005	0.90	0.76	0.05
Maintenance Shop Heater #1 Natural Gas	0.03	0.03	0.002	0.29	0.24	0.02
Fryer #3 Oil Heater Natural Gas	0.02	0.02	0.001	0.22	0.19	0.01
Air Handling Unit #1 Natural Gas	0.64	0.64	0.003	0.52	0.43	0.03
Air Handling Unit #2 Natural Gas	0.37	0.37	0.002	0.30	0.25	0.02
Air Handling Unit #3 Natural Gas	0.26	0.26	0.001	0.21	0.18	0.01

Visible emissions from any of the fuel burning equipment shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. 115, BACT and BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 5 DAY OF April, 2019.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Core for
GERALD D. REID, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-569-71-M-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 11, 2019
Date of application acceptance: January 15, 2019

Date filed with the Board of Environmental Protection:

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

