STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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DEPARTMENT ORDER

Praxair Surface Technologies, Inc. **York County** **Biddeford, Maine** **A-643-71-N-A**	**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

Praxair Surface Technologies, Inc. (Praxair) was issued Air Emission License A-643-71-M-R/A on July 18, 2014, for the operation of emission sources associated with their surface coating facility.

Praxair has requested an amendment to their license in order to replace two air make-up units (AMU).

The equipment addressed in this license amendment is located at 24 Landry Street, Biddeford, Maine.

B. Emission Equipment

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

Air Make-up Units

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate (scf/hr)	Fuel Type, % sulfur	Date of Manuf.	Date of Install.
AMU #3	6.6	6,470	Natural Gas, negligible	2021	2021
AMU #4	6.6	6,470	Natural Gas, negligible	2021	2021

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

Air Make-up Units

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate (scf/hr)	Fuel Type, % sulfur	Date of Manuf.	Date of Install.
AMU #1	3.0	3,120	Natural Gas, negligible	2000	2000
AMU #2	3.0	3,120	Natural Gas, negligible	2000	2007

C. Definitions

Records or *Logs* mean either hardcopy or electronic records.

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.

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	4.2	4.2	–	100
PM_{10}	4.2	4.2	–	100
SO_2	0.1	0.1	–	100
NO_x	8.3	8.3	–	100
CO	7.0	7.0	–	100
VOC	0.5	0.5	–	50

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

E. Facility Classification

With the volatile organic compound (VOC) and hazardous air pollutant (HAP) limits associated with the coating operations, the facility is licensed as follows:

- As a synthetic minor source of air emissions for VOC, because Praxair is subject to license restrictions that keep facility emissions below major source thresholds for criteria pollutants; and
- As an area source of 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. AMUs #3 and #4

Praxair has proposed the removal of previously licensed air make-up units (AMUs #1 and #2) and replacing them with two new air make-up units (AMUs #3 and #4). AMUs #3 and #4 are each rated at 6.6 MMBtu/hr and fire natural gas.

1. BACT Findings

Praxair submitted a BACT analysis for control of emissions from AMUs #3 and #4.

a. Particulate Matter (PM, PM_{10})
Praxair has proposed to burn only low-ash content fuels (natural gas) in AMUs #3 and #4. Additional add-on pollution controls are not economically feasible.

BACT for PM/PM_{10} emissions from AMUs #3 and #4 is the firing of natural gas and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO_2)
Praxair has proposed to fire only natural gas in AMUs #3 and #4. The use of this fuel results in minimal emissions of SO_2, and additional add-on pollution controls are not economically feasible.

BACT for SO_2 emissions from AMUs #3 and #4 is the use of natural gas and the emission limits listed in the tables below.

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

None of the control strategies evaluated are available on natural gas-fired AMUs.

BACT for NO_x emissions from AMUs #3 and #4 is the firing of natural gas and the emission limits listed in the tables below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)
Praxair considered several control strategies for the control of CO and VOC including oxidation catalysts and thermal oxidizers.

Oxidation catalysts and thermal oxidizers both have high capital, maintenance, and operational costs considering the size of the unit in question. These controls were determined to not be economically feasible.

BACT for CO and VOC emissions from AMUs #3 and #4 is the firing of natural gas and the emission limits listed in the tables below.

e. Emission Limits
The BACT emission limits for AMUs #3 and #4 were based on the following:

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 BACT emission limits for AMUs #3 and #4 are the following:

Unit	Pollutant	lb/MMBtu
AMU #3	PM	0.01
AMU #4	PM	0.01

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
AMU #3	0.07	0.07	–	0.65	0.54	0.04
AMU #4	0.07	0.07	–	0.65	0.54	0.04

2. Visible Emissions

   Visible emissions from AMUs #3 and #4 shall each not exceed 10% opacity on a six-minute block average basis.

3. Fuel Limit

   Praxair is subject to a facility-wide fuel limit of 165.4 MMscf/year of natural gas. The fuel use for AMUs #3 and #4 shall be included in this facility-wide limit.

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

   Due to the size of AMUs #3 and #4 and the fact that they are not steam generating units, these units are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

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

   AMUs #3 and #4 do not heat water. They do not meet the definition of a "boiler" and therefore are not subject to *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources,* 40 C.F.R. Part 63, Subpart JJJJJJ.

C. Annual Emissions

This license amendment will not change the facility's licensed annual emissions.

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 amendment.

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-643-71-N-A subject to the conditions found in Air Emission License A-643-71-M-R/A 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) of Air Emission License A-643-71-M-R/A:

(16) **Natural Gas-Fired Units**

A. Fuel

1. Praxair shall fire natural gas in all fuel burning equipment. [06-096 C.M.R. ch. 115, BACT/BPT]

2. Total fuel use for the Praxair facility shall not exceed 165,400,000 cubic feet of natural gas on a 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

   Compliance shall be documented through recordkeeping of fuel use both on a monthly and a 12-month rolling total basis in the natural gas-fired units. [06-096 C.M.R. ch. 115, BPT]

B. Emissions from each unit except AMUs #3 and #4 shall not exceed the following:

Pollutant	lb/MMBtu	Origin and Authority
PM	0.05	06-096 C.M.R. ch. 115, BPT

C. Emissions from AMUs #3 and #4 shall each not exceed the following:

Pollutant	lb/MMBtu	Origin and Authority
PM	0.01	06-096 C.M.R. ch. 115, BACT

D. Emissions shall not exceed the limits contained in the following table. [06-096 C.M.R. ch. 115, BPT]

Unit	PM (lb/hr)	PM_{10} (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Pit Furnace #0 (1.98 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Pit Furnace #1 (2.0 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Pit Furnace #2 (1.4 MMBtu/hr)	0.07	0.07	0.14	0.11	0.01
Pit Furnace #3 (2.0 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Pit Furnace #4 (2.0 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Pit Furnace #5 (1.98 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Pit Furnace #6 (1.98 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Box Furnace #1 (1.98 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Box Furnace #2 (1.98 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Box Furnace #3 (1.98 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Box Furnace #4 (1.98 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01

Unit	PM (lb/hr)	PM_{10} (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Box Furnace #5 (2.0 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Box Furnace #6 (2.6 MMBtu/hr)	0.13	0.13	0.25	0.21	0.01
Box Furnace #7 (1.4 MMBtu/hr)	0.07	0.07	0.14	0.11	0.01
Box Furnace #8 (1.98 MMBtu/hr)	0.10	0.10	0.19	0.16	0.01
Grieve Oven #1 (1.0 MMBtu/hr)	0.05	0.05	0.10	0.09	0.01
Grieve Oven #3 (1.0 MMBtu/hr)	0.05	0.05	0.10	0.09	0.01
Grieve Oven #5 (1.0 MMBtu/hr)	0.05	0.05	0.10	0.09	0.01
Grieve Oven #6 (1.0 MMBtu/hr)	0.05	0.05	0.10	0.09	0.01
Grieve Oven #9 (1.0 MMBtu/hr)	0.05	0.05	0.10	0.09	0.01
AMU #3 (6.6 MMBtu/hr)	0.07	0.07	0.65	0.54	0.04
AMU #4 (6.6 MMBtu/hr)	0.07	0.07	0.65	0.54	0.04

Note: Emissions of SO_2 from each unit firing natural gas are negligible and thus not quantified in the table.

E. Visible emissions from each of the fuel burning units listed in the table above shall not exceed 10% opacity on a six-minute block average basis.
[06-096 C.M.R. ch. 115, BPT/BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 16th DAY OF NOVEMBER, 2021.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____ for ____
MELANIE LOYZIM, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-643-71-M-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 9/30/2021
Date of application acceptance: 10/6/2021

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

FILED

NOV 16, 2021

State of Maine
Board of Environmental Protection