



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

**Avedis Zildjian Co.
Penobscot County
Newport, Maine
A-334-71-G-A/T**

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

FINDINGS OF FACT

After review of the air emission license amendment and transfer 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

Vic Firth Company was issued Air Emission License A-334-71-E-T/R/M on March 21, 2013, for the operation of emission sources associated with their wood products manufacturing facility. The license was subsequently amended on February 22, 2018 (A-334-71-F-M).

Avedis Zildjian Co. has requested the transfer of this air emission license from Vic Firth Company to Avedis Zildjian Co. (Zildjian) through an application to the Department dated October 28, 2021.

Additionally, Zildjian has requested an amendment to the license in order to install three propane-fired make-up air units.

The equipment addressed in this license amendment is located at 34 Progress Park in Newport, Maine. Production has been moving to this location over the last three years from the facility's previous location at 77 High Street in Newport. At the time of this licensing action, production at the High Street location has ceased and been fully transitioned to the Progress Park location. The wood-fired boiler (Boiler #1) remains on-site at the High Street location and may be removed from the license once the building is sold to new owners.

B. Title, Right, or Interest

In their application, Zildjian submitted copies of the articles of merger showing that Vic Firth Company merged with Avedis Zildjian Co. and that Avedis Zildjian Co. was the surviving entity. Therefore, Zildjian has provided sufficient evidence of title, right, or interest in the facility to allow the transfer of the facility's licenses.

C. Technical Capacity and Intent

Zildjian’s acquisition of the facility is not expected to result in any significant change in the employees who currently operate the equipment and facilities and conduct activities relative to the air emission license. The facility’s regulatory history with the Department demonstrates that the environmental personnel are competent in air pollution control. The information submitted in the application provides sufficient evidence that Zildjian has the technical capacity and intent to comply with their air emission license.

D. Certification

Zildjian certifies that there will be no increase in air emissions beyond that provided for in the existing licenses, either in quantity or type.

E. Emission Equipment

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

Make-up Air Units

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type, % sulfur	Date of Manuf.	Date of Install.
MAU-1	1.2	13	Propane, Negligible	2021	2021
MAU-2	1.2	13	Propane, Negligible	2021	2021
MAU-3	1.2	13	Propane, Negligible	2021	2021

F. 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	11.7	11.8	+0.1	100
PM ₁₀	11.7	11.8	+0.1	100
SO ₂	5.3	5.3	–	100
NO _x	20.6	22.9	+2.3	100
CO	22.4	23.7	+1.3	100
VOC	35.7	35.9	+0.2	50

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

G. Facility Classification

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

- As a synthetic minor source of air emissions for VOC because Zildjian 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. Make-up Air Units

Zildjian proposes to install three make-up air units (MAU-1, MAU-2, and MAU-3). All three units fire propane and are rated at a maximum heat input of 1.2 MMBtu/hr based on a fuel heating value of 91.5 MMBtu per 1,000 gallons.

1. BACT Findings

Following is a BACT analysis for control of emissions from MAU-1, 2, and 3.

a. Particulate Matter (PM, PM₁₀)

Zildjian has proposed to burn only low-ash content fuels (propane) in the make-up air units. Additional add-on pollution controls are not economically feasible due to the cost of control equipment compared to the relatively small amount of pollutant controlled.

BACT for PM/PM₁₀ emissions from MAU-1, 2, and 3 is the firing of only propane and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO₂)

Zildjian has proposed to fire only propane in the make-up air units. The use of this fuel results in minimal emissions of SO₂, and additional add-on pollution controls are not economically feasible due to the cost of control equipment compared to the relatively small amount of pollutant controlled.

BACT for SO₂ emissions from MAU-1, 2, and 3 is the firing of only propane and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)

Several control strategies for the control of NO_x were considered including Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), water/steam injection, and flue gas recirculation (FGR). However, none of these systems is considered feasible for the location and application of these small, propane-fired units.

BACT for NO_x emissions from MAU-1, 2, and 3 is the firing of only propane and the emission limits listed in the tables below.

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

Several control strategies for the control of CO and VOC were considered including oxidation catalysts and thermal oxidizers.

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 not be economically feasible.

BACT for CO and VOC emissions from MAU-1, 2, and 3 is the firing of only propane and the emission limits listed in the tables below.

e. Emission Limits

The BACT emission limits for MAU-1, 2, and 3 were based on the following:

- PM/PM₁₀ – 0.7 lb/1,000 gal based on AP-42, Table 1.5-1 dated 7/08
- SO₂ – 0.054 lb/1,000 gal based on AP-42, Table 1.5-1 dated 7/08
- NO_x – 13 lb/1,000 gal based on AP-42, Table 1.5-1 dated 7/08
- CO – 7.5 lb/1,000 gal based on AP-42, Table 1.5-1 dated 7/08
- VOC – 1 lb/1,000 gal based on AP-42, Table 1.5-1 dated 7/08
- Visible Emissions – 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for MAU-1, 2, and 3 are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
MAU-1	0.01	0.01	–	0.17	0.10	0.01
MAU-2	0.01	0.01	–	0.17	0.10	0.01
MAU-3	0.01	0.01	–	0.17	0.10	0.01

2. Visible Emissions

Visible emissions from MAU-1, 2, and 3 shall each 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 make-up air units are not boilers. Additionally, they are each less than 10 MMBtu/hr. Therefore, the make-up air 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]

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

The make-up air units 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 JJJJJ.

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. 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 Boiler #1, Boiler #2, and the make-up air units for 8,760 hours/year (each);
- A VOC limit from process emissions of 35.0 tpy; and
- A facility-wide total HAP limit of 9.9 tpy.

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	Total HAP
Boiler#1	11.0	11.0	0.9	18.0	22.1	0.6	–
Boiler #2	0.7	0.7	4.4	2.6	0.3	0.1	–
MAU-1, 2, and 3 (combined)	0.1	0.1	–	2.3	1.3	0.2	–
Process Emissions	–	–	–	–	–	35.0	–
Facility-Wide	–	–	–	–	–	–	9.9
Total TPY	11.8	11.8	5.3	22.9	23.7	35.9	9.9

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 amendment.

ORDER

Based on the above, the Department concludes that the applicant for the air emission license transfer has the capacity to satisfy all applicable statutory criteria and hereby APPROVES the transfer of Air Emission License A-334-71-E-T/R/M and amendment A-334-71-F-M from Vic Firth Company to Avedis Zildjian Co. subject to all conditions attached to them.

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-334-71-G-A/T subject to the conditions found in Air Emission License A-334-71-E-T/R/M, in amendment A-334-71-F-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 are new Conditions.

(24) MAU-1, 2, and 3

A. MAU-1, 2, and 3 shall each fire only propane. [06-096 C.M.R. ch. 115, BACT]

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

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
MAU-1	0.01	0.01	–	0.17	0.10	0.01
MAU-2	0.01	0.01	–	0.17	0.10	0.01
MAU-3	0.01	0.01	–	0.17	0.10	0.01

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C. Visible emissions from MAU-1, 2, and 3 shall each not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 3rd DAY OF DECEMBER, 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-334-71-E-T/R/M.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 10/29/2021

Date of application acceptance: 11/1/2021

Date filed with the Board of Environmental Protection:

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

