

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

#### DEPARTMENT ORDER

Fiber Materials Inc. York County Biddeford, Maine A-262-71-AE-A Departmental Findings of Fact and Order Air Emission License Amendment #5

#### **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

Fiber Materials Inc. (FMI) was issued Air Emission License A-262-71-Z-R on March 20, 2014, for the operation of emission sources associated with their carbon composite manufacturing facility. The license was subsequently amended on September 25, 2017 (A-262-71-AA-M), May 29, 2019 (A-262-71-AB-M), September 13, 2019 (A-262-71-AC-M), and February 18, 2021 (A-262-71-AD-A).

The equipment addressed in this license amendment is located at 5 Morin Street, Biddeford, Maine.

FMI has requested an amendment to their license in order to make the following changes:

- 1. Replace four pairs of impregnation vessels with new units;
- 2. Remove Hot Isostatic Press (HIP) Vessels 1 and 5;
- 3. Install one new HIP vessel (HIP 8);
- 4. Remove Graphitizers #22 and #23 and associated Incinerator #4; and
- 5. Replace S1 Retort Oven with one that has its own incinerator.

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# B. Emission Equipment

Following is an updated inventory of process emission units at FMI:

	Number	
Equipment	of Units	Control Device
Impregnation Vessels <sup>1</sup>	10 pair	Condenser/Coalescent Filters
Atmospheric Carbonizers 1-3	3	Incinerator #3
Atmospheric Carbonizers 4-6	3	Incinerator #9
Silicon Carbide Carbonizer	1	N/A
(AC 2)		
Douglas	2	Condensers, Filters, &
Impregnator/Carbonizers		Incinerator #3
Hot Isostatic Press Vessels	2	Wet Scrubber
$(HIP \ 1 \ and \ 5)^2$		
Hot Isostatic Press Vessels	3	Wet Scrubber
(HIP 2, 3, and 4)		
Hot Isostatic Press Vessels	2	Catch-Can & Wet Scrubber
(HIP 6 and 7)		
Hot Isostatic Press Vessel	1	Catch-Can & Wet Scrubber
(HIP 8) <sup>3</sup>		
<i>Graphitizers</i> #22 & #23 <sup>2</sup>	2	Incinerator #4
A/B Graphitizers	7	Incinerator #2
G/F Graphitizers	6	Incinerator #1
H Graphitizers	3	Incinerator #1
B1 Retort Oven	1	Incinerator #5
S1 Retort Oven <sup>4</sup>	1	Incinerator #10
Drying Ovens	4	N/A
Bldg 3 Machine Shop	Misc.	Dust Collectors
Bldg 5 Machine Shop	Misc.	Dust Collectors
Parts Washers	2	N/A

# **Process Equipment**

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<sup>1</sup> Includes six existing pair and four new (replacement) pair <sup>2</sup> Equipment to be removed

<sup>3</sup> New equipment

<sup>4</sup> Equipment replaces the previous S1 Retort Oven and includes its own dedicated incinerator.

# C. Definitions

<u>Records</u> or <u>Logs</u> mean either hardcopy or electronic records.

## D. Application Classification

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:

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Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emission Levels
PM	3.4	3.5	+0.1	100
PM <sub>10</sub>	3.4	3.5	+0.1	100
SO <sub>2</sub>	—	-	_	100
NO <sub>x</sub>	11.9	12.6	+0.7	100
CO	5.5	5.8	+0.3	100
VOC	18.0	19.5	+1.5	50*

\*FMI is located in an area of the state included in the Ozone Transport Region. Therefore, the significant emission level for VOC is 50 tpy.

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

# E. Facility Classification

With the annual facility limits on volatile organic compounds (VOC) and hazardous air pollutants (HAP) and the operating hours restriction on the emergency generators, the facility is licensed as follows:

- As a synthetic minor source of air emissions, because FMI 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

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*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. Process Overview

FMI produces carbon fiber composite parts. Production of the parts consists of a four-step process: weaving, impregnation, carbonization, and graphitization.

In the weaving step, carbon fiber yarn is hand-woven to create forms that make up the basic structure of each part. The weaving process does not generate any emissions of regulated air pollutants.

Following weaving, the completed carbon fiber forms (also known as "billets") are impregnated with coal tar pitch in a pair of impregnation vessels. One vessel in the pair is filled with coal tar pitch which is electrically heated to approximately 300 °C to melt the pitch and reduce its viscosity to approximately that of water. The other vessel in the pair contains the billet to be impregnated. It is also heated to 300 °C. The air is evacuated from the vessel containing the billet, and the pitch is pumped from the melting vessel into the evacuated vessel, thereby impregnating the billet with coal tar pitch.

The billets then enter the carbonization stage which converts the coal tar pitch to carbon coke. Atmospheric Carbonizers 1-6 are electrically heated to approximately 800 °C in a nitrogen environment at atmospheric pressure.

As an alternative to the atmospheric carbonization process, some billets are processed using the Hot Isostatic Press (HIP) system. The billets are placed in a large electric furnace which is then placed in an autoclave. The HIP furnace is capable of heating to approximately 750 °C, while the autoclave is capable of being pressurized with argon up to 15,000 psig (pounds per square inch gauge).

The billets, which are now covered in carbon, go through a graphitization process where the disordered carbon atoms undergo a structural change to create pure graphite. The process must occur at high temperatures to allow the chaotic carbon atoms to travel to form ideal and homogenous graphite layers. The graphitizers are electric induction furnaces capable of heating to approximately 2,750 °C. The temperature of the graphitizer is monitored using a thermocouple up to 950 °C and using a two-color infrared system for temperatures greater than 950 °C. The graphitizers are continuously purged with nitrogen to prevent oxidation of the carbon and/or graphite.

## C. Impregnation Vessels

FMI is currently licensed to operate 10 pairs of impregnation vessels. As part of this licensing action, FMI proposes in-kind replacement of three of the existing impregnation vessel pairs. They are also proposing replacement of a fourth vessel pair with a new pair (Impregnation Vessel Pair 10) that is approximately six times larger than the one it is replacing.

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The impregnation vessels are exhausted via a vacuum pump. They emit coal tar pitch volatiles as well as very small amounts of carbon monoxide (CO). The coal tar pitch volatiles contain both VOC and HAP. Emissions from the existing impregnation vessels are controlled by a condensing trap vessel and coalescent filter mounted in-line with a vacuum pump used for maintaining vacuum in the impregnation vessels. This control technology is estimated to capture and control emissions with an efficiency greater than 99%.

FMI previously performed on-site testing on the outlet of the facility's existing impregnation vessels. The maximum VOC emission rate observed was 0.08 lb/hr, and the maximum HAP emission rate observed was 0.04 lb/hr from each vessel pair.

FMI proposes utilizing a condensing trap vessel and coalescent filter on each of the new impregnation vessels as is currently used on the existing impregnation vessels. The in-kind replacement vessels are expected to have the same emissions profile as the units they are replacing. However, Impregnation Vessel Pair 10 is six times larger and is therefore expected to have an emission rate six times that of the smaller units, i.e., approximately 0.48 lb/hr of VOC and 0.24 lb/hr of HAP.

The potential to emit (PTE) for the four new pair of impregnation vessels is less than 3.2 tpy of VOC. As such, additional add-on pollution controls are not economically feasible.

The Department finds the use of the proposed condensing trap vessel and coalescent filter on each impregnation vessel and compliance with facility-wide emission limits of 19.5 tpy for VOC and 9.9 tpy for total HAP to represent BACT for control of emissions from the new impregnation vessels.

Visible emissions from each impregnation vessel vent shall not exceed 10% opacity on a six-minute block average basis.

#### D. <u>HIP Vessels</u>

FMI is currently licensed to operate seven Hot Isostatic Press (HIP) vessels (HIP Vessels 1-7). They have proposed the removal of HIP Vessels 1 and 5 and the installation of one new unit, HIP Vessel 8.

In the HIP cycle, hydrocarbon gases are exhausted from the autoclave in brief pulses. The exhaust gas goes through a tremendous pressure drop, and the cooling that results causes some heavy hydrocarbons to condense out. FMI has proposed controlling emissions from the new HIP vessel by equipping the vessel with a catch-can to collect the condensed hydrocarbons followed by a wet scrubber. The wet scrubber sprays water into the exhaust stream, and the water is then collected and recycled. The wet scrubbers are rated for 99% collection and removal of pitch volatiles. The proposed controls are identical to those on the existing HIP Vessels 6 and 7.

FMI performed on-site testing of the outlet of the wet scrubbers associated with the existing HIP Vessels 2-4. The maximum emission rate of VOC or HAP observed was 0.009 lb/hr per vessel. Due to the incorporation of the catch-can in the new HIP vessels, emissions from the new units are expected to be even lower.

The Department finds the use of a catch-can and wet scrubber on HIP Vessel 8 and compliance with facility-wide emission limits of 19.5 tpy for VOC and 9.9 tpy for total HAP to represent BACT for control of emissions from the new HIP vessel.

Visible emissions from HIP Vessel 8 shall not exceed 10% opacity on a six-minute block average basis.

# E. Graphitizers

FMI is currently licensed to operate 18 graphitizers (seven in the A/B Graphitizers bank, six in the G/F Graphitizers bank, three in the H Graphitizers bank, and Graphitizers #22 & #23). The facility has proposed removing Graphitizers #22 and #23 and their associated control equipment (Incinerator #4). After this amendment, the facility will be licensed to operate a total of 16 graphitizers. No other change is proposed to the graphitizers as part of this licensing action.

#### F. <u>Retort Ovens</u>

FMI is currently licensed to operate two electric retort ovens (S1 and B1 Retort Ovens). They are used to carbonize adhesives and assorted rayon materials, such as rayon felt, fiber, tow, and staple. Emissions from S1 and B1 Retort Ovens are currently both controlled by a single incinerator (Incinerator #5). FMI has proposed replacement of S1 Retort Oven with a new unit that has its own dedicated incinerator (Incinerator #10).

Incinerator #10 is expected to have a VOC and HAP control efficiency of >99%. The incinerator is operated at a minimum temperature of 1,600°F (871 °C) with a minimum retention time of 1.0 second throughout the carbonization cycle. The incinerator has two chambers and the total burner heat input is 2.4 MMBtu/hr firing natural gas.

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Based on previous testing of the retort ovens, it was shown that the emissions from the retort ovens drop to negligible levels shortly after power to the retort ovens is terminated and the cooling stage begins. Based on this testing, it has been determined that use of the incinerator may be discontinued when a minimum of 6.5 hours has elapsed from the time the power to the oven was shut off or when the oven temperature has dropped to below  $392 \,^{\circ}F$  (200  $^{\circ}C$ ).

The Department finds that BACT for the new S1 Retort Oven is the use of Incinerator #10 to continuously control emissions of VOC and HAP. FMI shall maintain a minimum temperature of 1,600 °F (871 °C) in Incinerator #10 at all times it is used to control emissions from S1 Retort Oven. Upon S1 Retort Oven power termination, the use of the incinerator may be discontinued when the temperature of the retort ovens drops below 392 °F (200 °C) and a minimum of 6.5 hours has elapsed from the time the power was shut off.

The BACT emission limits for Incinerator #10 were based on the following:

PM/PM <sub>10</sub>	_	0.05 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 <sub>x</sub>	_	200 lb/MMscf based on twice AP-42 Table 1.4-1 dated 7/98 due
		to the high amount of thermal NO <sub>x</sub> expected
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 Incinerator #10 are the following:

Unit	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO
	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Incinerator #10	0.12	0.12		0.47	0.20

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

#### G. 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 the following assumptions:

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- Operating each boiler and incinerator for 8,760 hrs/yr;
- Operating each generator for 100 hrs/yr;
- A facility-wide VOC limit of 19.5 tpy; and
- A facility-wide HAP limit of 9.9 tpy.

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

							Total
	PM	<b>PM</b> <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	HAP
Boiler #1	0.4	0.4	_	0.7	0.6	_	_
Boiler #4a	0.3	0.3	_	0.5	0.4	_	_
Boiler #4b	0.3	0.3	—	0.5	0.4	_	_
Bldg 2 Generator		_	—	0.2	0.1	_	_
Bldg 3 Generator	_	_	_	0.5	0.1	_	_
Bldg 1-2-6 Generator	_	_	_	0.8	0.2	_	_
Incinerator #1	0.4	0.4	_	1.4	0.6	_	_
Incinerator #2	0.4	0.4	_	1.4	0.6	_	_
Incinerator #3	0.4	0.4	_	1.4	0.6	_	_
Incinerator #5	0.3	0.3	_	1.3	0.5	_	_
Incinerator #9	0.5	0.5	_	1.8	0.8	_	_
Incinerator #10	0.5	0.5	_	2.1	0.9	_	_
Facility-Wide Limit	_	_	_	_	_	19.5	9.9
<b>Total TPY</b>	3.5	3.5	_	12.6	5.8	19.5	9.9

(used to calculate the annual license fee)

# 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
PM10	25
$SO_2$	50
NO <sub>x</sub>	50
CO	250

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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 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 FMI 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-262-71-AE-A subject to the conditions found in Air Emission License A-262-71-Z-R; in amendments A-262-71-AA-M, A-262-71-AB-M, A-262-71-AC-M, and A-262-71-AD-A; and the following conditions.

<u>Severability</u>. 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 (19) of Air Emission License A-262-71-AD-A:

#### (19) Facility-Wide Emission Limits

A. FMI shall not exceed an emission limit of 19.5 tons per year of VOC based on a 12-month rolling year total. This is a facility-wide limit. As such, emissions from all equipment and processes at the facility and addressed in the air emission license shall be included in calculations used to determine compliance with this limit. [06-096 C.M.R. ch. 115, BACT]

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- B. FMI shall not exceed an emission limit of 9.9 tons per year for all HAPs combined based on a 12-month rolling total. This is a facility-wide limit. As such, emissions from all equipment and processes at the facility and addressed in the air emission license shall be included in calculations used to determine compliance with this limit, including HAP emissions from fuel burning equipment and all other HAP emission sources. HAPs are as identified in 06-096 C.M.R. ch. 115, Appendix B and in Section 112(b) of the CAA. [06-096 C.M.R. ch. 115, BACT]
- C. Compliance with the VOC and HAP emission limits shall be demonstrated by recordkeeping including the following, as applicable: fuel usage, hours of operation, and site-specific test data. Emissions from the Silicon Carbide Carbonizer and the Douglas Impregnator/Carbonizer shall be conservatively calculated based on site-specific emission rates developed for other similar equipment (i.e., the impregnation vessels and the atmospheric carbonizers). Calculations of annual VOC and HAP emissions shall be performed at least once annually. Additional calculation of emissions to demonstrate compliance with these limits shall be performed upon request by the Department. [06-096 C.M.R. ch. 115, BACT]

# The following shall replace Condition (20)(A) of Air Emission License A-262-71-AD-A:

(Replacement of four impregnation vessels)

#### (20) Impregnation Vessels

(Includes ten pair of impregnation vessels and the impregnation stage when using the Douglas Impregnator/Carbonizer.)

A. FMI is licensed to operate up to a total of ten pair of impregnation vessels and the Douglas Impregnator/Carbonizer. This includes the in-kind replacement of three impregnation vessels and the installation of the larger Impregnation Vessel 10. [06-096 C.M.R. ch. 115]

**The following shall replace Condition (23) of Air Emission License A-262-71-AD-A:** (Removal of HIP Vessels 1 and 5 and addition of HIP Vessel 8)

# (23) HIP Vessels

- A. FMI is licensed to operate up to a total of six HIP vessels (HIP Vessels 2-4 and 6-8). [06-096 C.M.R. ch. 115]
- B. For HIP Vessels 2-4, FMI shall control emissions from each vessel by venting emissions through the associated wet scrubber throughout each HIP cycle. [06-096 C.M.R. ch. 115, BPT]
- C. For HIP Vessels 6-8, FMI shall control emissions from each vessel by venting emissions through a catch-can and then the associated wet scrubber throughout each HIP cycle. [06-096 C.M.R. ch. 115, BACT]

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- D. FMI shall maintain a log of the date and details of any repairs or maintenance (planned or unplanned) performed on the catch-cans and wet scrubbers including dates of routine draining of the condensate. [06-096 C.M.R. ch. 115, BPT/BACT]
- E. Visible emissions from each HIP vessel shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT/BACT]

**The following shall replace Condition (24) of Air Emission License A-262-71-AD-A:** (Removal of Graphitizers #22 and #23 and associated Incinerator #4)

#### (24) Graphitizers

(Includes seven A/B Graphitizers, six G/F Graphitizers, and three H Graphitizers.)

- A. FMI is licensed to operate up to a total of 16 graphitizers. [06-096 C.M.R. ch. 115, BPT]
- B. FMI shall continuously control VOC and HAP emissions from A/B Graphitizers whenever operated by the use of Incinerator #2. Upon power termination to all A/B Graphitizers, the use of the incinerator may be discontinued when the temperature of the graphitizers drops below 1,292 °F (700 °C) and a minimum of 3.5 hours has elapsed from the time the graphitizer power was shut off. [06-096 C.M.R. ch. 115, BPT]
- C. FMI shall continuously control VOC and HAP emissions from G/F Graphitizers and H Graphitizers whenever operated by the use of Incinerator #1. Upon power termination to all G/F Graphitizers and H Graphitizers, the use of the incinerator may be discontinued when the temperature of the graphitizers drops below 1,292 °F (700 °C) and a minimum of 3.5 hours has elapsed from the time the graphitizer power was shut off. [06-096 C.M.R. ch. 115, BPT]
- D. FMI shall maintain a log of the date and details of any repairs or maintenance (planned or unplanned) performed on Incinerators #1 and #2.
  [06-096 C.M.R. ch. 115, BPT]
- E. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO2 (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)
Incinerator #1	0.08	0.08	_	0.32	0.13
Incinerator #2	0.08	0.08	_	0.32	0.13

F. FMI shall maintain a minimum temperature of 1,600 °F (871 °C) in Incinerators #1 and #2 (as applicable) at all times during the graphitizing process.
 [06-096 C.M.R. ch. 115, BPT]

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- G. A pyrometer or thermocouple shall be installed and maintained at the location of the incinerator or refractory-lined stack which provides sufficient volume to ensure a flue gas retention time of not less than 1.0 second. [06-096 C.M.R. ch. 115, BPT]
- H. The temperature of each incinerator shall be monitored continuously and recorded at least once hourly whenever any associated graphitizer is in operation. [06-096 C.M.R. ch. 115, BPT]
- I. FMI shall keep a log for each graphitizer detailing dates and times of operation. [06-096 C.M.R. ch. 115, BPT]
- J. Visible emissions from Incinerators #1 and #2 shall each not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

# **The following shall replace Condition (26) of Air Emission License A-262-71-AD-A:** (Replacement of S1 Retort and addition of associated Incinerator #10)

# (26) S1 and B1 Retort Ovens

- A. FMI is licensed to operate up to a total of two retort ovens (S1 and B1 Retort Ovens). [06-096 C.M.R. ch. 115, BPT/BACT]
- B. FMI shall continuously control VOC and HAP emissions from the S1 Retort Oven by the use of Incinerator #10. Upon power termination to S1 Retort Oven, the use of the incinerator may be discontinued when the temperature of the retort oven drops below 392 °F (200 °C) and a minimum of 6.5 hours has elapsed from the time the power to the S1 Retort Oven was shut off. [06-096 C.M.R. ch. 115, BACT]
- C. FMI shall continuously control VOC and HAP emissions from the B1 Retort Oven by the use of Incinerator #5. Upon power termination to B1 Retort Oven, the use of the incinerator may be discontinued when the temperature of the retort oven drops below 392 °F (200 °C) and a minimum of 6.5 hours has elapsed from the time the power to the B1 Retort Oven was shut off. [06-096 C.M.R. ch. 115, BPT]
- D. FMI shall maintain a log of the date and details of any repairs or maintenance (planned or unplanned) performed on Incinerators #5 and #10.
  [06-096 C.M.R. ch. 115, BPT/BACT]

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)
Incinerator #10 (S1 Retort Oven)	0.12	0.12	-	0.47	0.20
Incinerator #5 (B1 Retort Oven)	0.08	0.08		0.30	0.12

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

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- F. FMI shall maintain a minimum temperature of 1,600 °F (871 °C) in Incinerator #10 at all times Incinerator #10 is being used to control emissions from S1 Retort Oven. [06-096 C.M.R. ch. 115, BACT]
- G. FMI shall maintain a minimum temperature of 1,600 °F (871 °C) in Incinerator #5 at all times Incinerator #5 is being used to control emissions from B1 Retort Oven. [06-096 C.M.R. ch. 115, BPT]
- H. For both Incinerators #5 and #10, a pyrometer or thermocouple shall be installed and maintained at the location of the incinerator or refractory-lined stack which provides sufficient volume to ensure a flue gas retention time of not less than 1.0 second at 1,600 °F (871 °C). [06-096 C.M.R. ch. 115, BPT/BACT]
- I. The temperature of each incinerator shall be monitored continuously and recorded at least once hourly whenever any associated retort oven is in operation. [06-096 C.M.R. ch. 115, BPT/BACT]
- J. FMI shall keep a log for each retort oven detailing dates and times of operation. [06-096 C.M.R. ch. 115, BPT]
- K. Visible emissions from Incinerator #10 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

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A-262-71-AE-A	14	Amendment #5

L. Visible emissions from Incinerator #5 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

Done and dated in Augusta, maine this  $15^{th}$  day of MARCH, 2023.

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-262-71-Z-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application:2/1/2023Date of application acceptance:2/1/2023

Date filed with the Board of Environmental Protection:

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

# FILED

MAR 15, 2023

State of Maine Board of Environmental Protection