



DEPARTMENT ORDER

**GO Lab Madison, LLC  
Somerset County  
Madison, Maine  
A-1151-71-B-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

GL Real Estate Holdings, LLC was issued Air Emission License A-1151-71-A-N on May 7, 2020, for the operation of emission sources associated with their wood fiber insulation manufacturing facility. The applicant has requested an amendment to their license in order to make the following changes:

- Change the name of the license holder from GL Real Estate Holdings, LLC to GO Lab Madison, LLC;
- Increase production capacities of the Flash Tube Dryers;
- Increase heat input capacities of the Flash Tube Dryer Heaters;
- Incorporate design and installation corrections and clarifying edits; and
- Include the option to install condenser emission control systems on the Flash Tube Dryers, if needed to maintain emissions at minor source levels.

The equipment addressed in this license amendment is located at 1 Main Street Madison, Maine.

B. Emission Equipment

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

**Fuel Burning Equipment**

| <b>Equipment</b>           | <b>Max. Capacity (MMBtu/hr)</b> | <b>Maximum Firing Rate</b> | <b>Fuel Type</b> | <b>Date of Manuf.</b> | <b>Date of Install.</b> | <b>Stack #</b>            |
|----------------------------|---------------------------------|----------------------------|------------------|-----------------------|-------------------------|---------------------------|
| Flash Tube Dryer Heater #1 | 25.6                            | 25,100 scfh                | Natural Gas      | 2020                  | 2020                    | Flash Tube Dryer #1 Stack |
| Flash Tube Dryer Heater #2 | 25.6                            | 25,100 scfh                | Natural Gas      | 2020                  | 2020                    | Flash Tube Dryer #2 Stack |

Note: Maximum Capacity and Maximum Firing Rate values have been updated.

**Process Equipment**

| Equipment           | Production Rate        | Pollution Control Equipment | Stack #                   |
|---------------------|------------------------|-----------------------------|---------------------------|
| Flash Tube Dryer #1 | 8.3 tons/hr (oven dry) | High Efficiency Cyclone     | Flash Tube Dryer #1 Stack |
| Flash Tube Dryer #2 | 8.3 tons/hr (oven dry) | High Efficiency Cyclone     | Flash Tube Dryer #2 Stack |

Note: Production Rate values have been updated.

C. Application Classification

All rules, regulations, or statutes referenced in this air emission license amendment refer to the amended version in effect as of the date this license amendment 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. The future license pollutant emissions totals have increased due to a license allowed production increase of the Flash Tube Dryers and an increase in heat input capacities of the Flash Tube Dryer Heaters. Since the proposed Condenser Control Systems are an elective option and GO Lab Madison, LLC (GO Lab) is not proposing to revise the BACT determination in their original license, any potential emissions reductions from use of Condenser Control Systems were not included in this analysis.

| Pollutant        | Current License (TPY) | Future License (TPY) | Net Change (TPY) | Significant Emission Levels |
|------------------|-----------------------|----------------------|------------------|-----------------------------|
| PM               | 19.1                  | 19.5                 | 0.4              | 100                         |
| PM <sub>10</sub> | 14.4                  | 14.8                 | 0.4              | 100                         |
| SO <sub>2</sub>  | 0.3                   | 0.3                  | 0                | 100                         |
| NO <sub>x</sub>  | 34.7                  | 39.2                 | 4.5              | 100                         |
| CO               | 48.6                  | 52.4                 | 3.8              | 100                         |
| VOC              | 49.4                  | 49.9                 | 0.5              | 50                          |

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

D. Project Description

1. As requested in the application, the facility has changed its name from GL Real Estate Holdings, LLC to GO Lab Madison, LLC. This change has been made as part of this license amendment.

2. The Flash Tube Dryers were originally licensed with a production rate of 7.8 tons/hour of oven-dry material (each dryer). The applicant has requested the increase of the production rate for each dryer to 8.3 tons/hour. This amendment updates information and values affected by this change.
3. The Flash Tube Dryer Heaters, originally licensed with heat input capacities of 20 MMBtu/hr (each), have been updated in this amendment to heat input capacities of 25.6 MMBtu/hr (each).
4. Equipment design and installation corrections and clarifying edits have been incorporated in this amendment.
5. The option to install and operate a Condenser Control System on each Flash Tube Dryer exhaust after the high efficiency cyclone if needed to maintain emissions at minor source levels is included in this amendment.

With these changes, GO Lab is classified and licensed as follows:

- As a synthetic minor source of air emissions for criteria pollutants because GO Lab is subject to license restrictions that keep facility 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.

Emissions of VOC are licensed above 80% of the major source threshold. Therefore, this facility is classified as an “80% Synthetic Minor” for the purpose of determining the minimum required compliance inspection frequency in accordance with Maine’s Compliance Monitoring Strategy. Please note, this designation may change following start-up of the facility and completion of VOC emissions testing of the facility.

## II. BEST PRACTICAL TREATMENT (BPT)

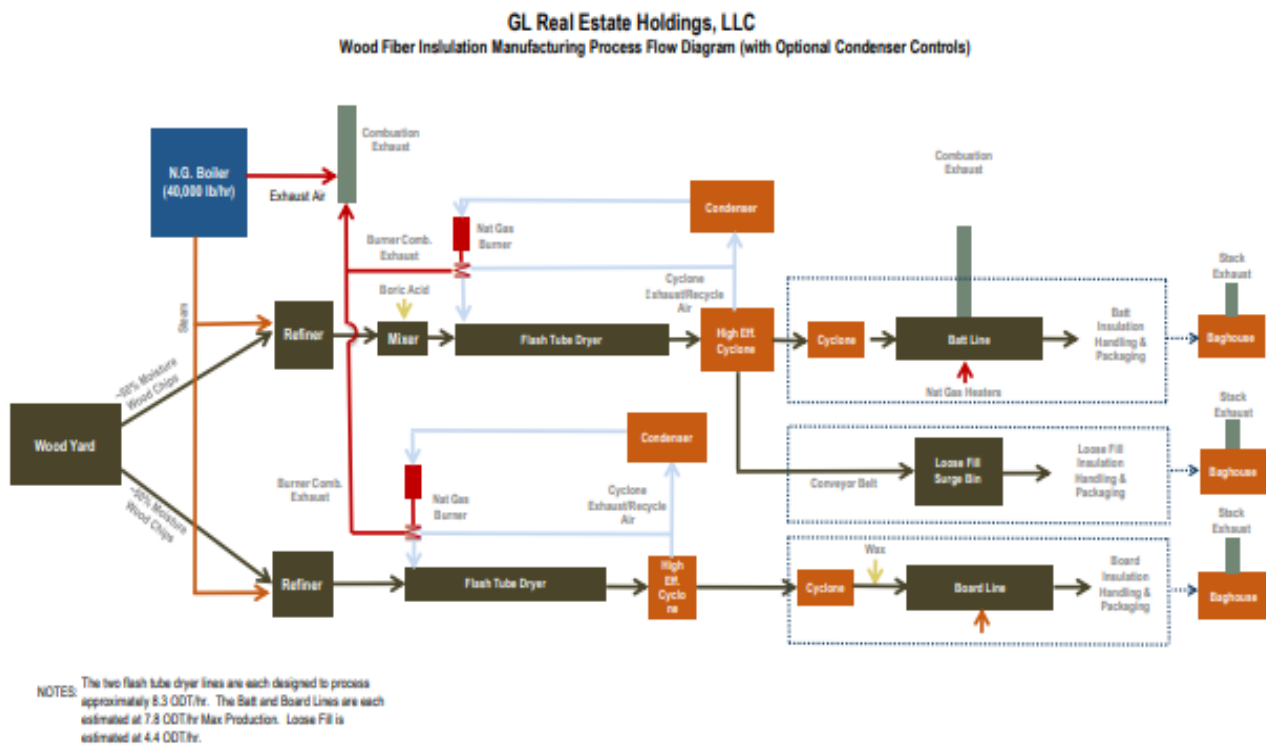
### A. Introduction

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. BACT for licensed equipment at this facility was established in Air Emission License A-1151-71-A-N (May 7, 2020). The BACT determination is not affected by the changes made in this license amendment.

The following is an updated flow diagram of the facility:

Figure 1-1: Process Flow Diagram (Optional Condenser Control System)



B. Flash Tube Dryers and Heaters

GO Lab is proposing to construct two Dieffenbacher industrial flash tube dryers, designed to dry wood with a high moisture content. Using a forced draft fan system, wet wood is pneumatically conveyed into the dryers, where water is evaporated from the wood in a matter of seconds from direct contact with up to 100% of the exhaust from Boiler #1 and/or the supplemental heaters associated with each Flash Tube Dryer. Exiting each Flash Tube Dryer, the material is separated from the air stream using high-efficiency cyclones. Each dryer will be approximately 550' in length with a 4.1' diameter. The required ~356 °F heat will be provided primarily by Boiler #1, but each dryer will also be equipped with a 25.6 MMBtu/hr natural gas-fired burner to provide supplemental heat to the dryers. The residence time for the wood dried in the Flash Tube Dryers is estimated at 5-6 seconds.

1. BACT Findings Update

GO Lab has proposed to include in their license Condenser Control Systems for optional installation and use to reduce emissions of VOC if needed to keep the annual VOC emissions below major source thresholds. If utilized, the Condenser Control Systems will also reduce PM emissions.

Each condenser will use water sprayed into the exhaust to cool and scrub PM and VOC emissions. The scrubbed gases will exhaust from the condenser into the combustion air to be used in the natural gas burner in the Flash Tube Dryer Heaters. The resulting effluent from each condenser will be sent to the municipal wastewater treatment plant. The condenser is estimated to have a VOC and PM control efficiency of 95% or greater and would allow the facility the flexibility to operate at full design capacity of about 300,000 wet tons per year while staying below a facility-wide VOC emission limit of 49.9 TPY. Since this is a new process and actual VOC emissions have not yet been confirmed, this control option has been requested in case stack emissions testing results without condenser controls indicate annual VOC emissions could be emitted at levels greater than major source thresholds.

This type of control was not included in the original BACT analysis because this option was considered economically infeasible. Below of is a cost-per-ton analysis of the Condenser Control System.

The estimated cost of the initial capital equipment of the Condenser Control System would be approximately \$3,000,000 per line with annual wastewater treatment costs of about \$300,700 per line. The cost per ton of PM and VOC emission reductions combined is ~\$15,000 per ton. Data and calculations supporting these values were supplied as part of the amendment application and are in the BAQ licensing file for this facility.

The BACT VOC and PM emission limits for process-related (non-combustion) emissions from Flash Tube Dryers #1 and #2 were determined based on the following emission factors:

| Pollutant        | Spruce/Fir (lb/ODT) | Comments  |
|------------------|---------------------|---|
| PM               | 0.5                 | based on high efficiency cyclone vendor data  |
| PM <sub>10</sub> | 0.38                | PM <sub>10</sub> is at least 25% less than Total PM based on AP-42 Sec. 10.6.1-1 for softwood |
| VOC              | 1.5                 | Based on NCASI testing  |

Flash Tube Dryers #1 and #2, BACT determined emission limits for process-related emissions only (does not include combustion emissions) are as follows:

| Unit                  | PM<br>(lb/hr) | PM <sub>10</sub><br>(lb/hr) | SO <sub>2</sub><br>(lb/hr) | NO <sub>x</sub><br>(lb/hr) | CO<br>(lb/hr) | VOC<br>(lb/hr) |
|-----------------------|---------------|-----------------------------|----------------------------|----------------------------|---------------|----------------|
| *Flash Tube Dryers #1 | 4.2           | 3.2                         | -                          | -                          | -             | 12.5           |
| *Flash Tube Dryers #2 | 4.2           | 3.2                         | -                          | -                          | -             | 12.5           |

\* process related emissions only; does not include combustion related emissions

- Combustion related emissions associated with Flash Tube Dryer Heaters #1 and #2 are as follows:

The portion of the BACT determined emission limits for each Flash Tube Dryer Heater #1 and Heater #2 (combustion emissions) are based on the following:

Natural Gas

- PM – 0.01 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
- PM<sub>10</sub> – 7.6 lb/MMscf for PM<sub>10</sub> based on AP-42 Table 1.4-2, dated 7/98
- SO<sub>2</sub> – 0.6 lb/MMscf based on AP-42 Table 1.4-2, dated 7/98
- NO<sub>x</sub> – 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 – 11 lb/MMscf based on TOC emission factor in AP-42 Table 1.4-2, dated 7/98
- Visible Emissions – N/A (vented to high efficiency cyclones)

The heat input capacities of the Flash Tube Dryer Heaters #1 and #2 have been increased from 20 MMBtu/hr to 25.6 MMBtu/hr.

This portion of emissions for Flash Tube Dryers Heaters are as follows:

| Unit       | PM<br>(lb/hr) | PM <sub>10</sub><br>(lb/hr) | SO <sub>2</sub><br>(lb/hr) | NO <sub>x</sub><br>(lb/hr) | CO<br>(lb/hr) | VOC<br>(lb/hr) |
|------------|---------------|-----------------------------|----------------------------|----------------------------|---------------|----------------|
| *Heater #1 | 0.26          | 0.19                        | 0.02                       | 2.51                       | 2.11          | 0.28           |
| *Heater #2 | 0.26          | 0.19                        | 0.02                       | 2.51                       | 2.11          | 0.28           |

\* combustion-related emissions only; does not include process related emissions

3. The combined (process and combustion) emission limits for the Flash Tube Dryers and Heaters #1 and #2 without the Condenser Control System are as follows:

| 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) | VOC (lb/hr) |
|---------------------------------|------------|--------------------------|-------------------------|-------------------------|------------|-------------|
| Flash Tube Dryer #1 + Heater #1 | 4.5        | 3.4                      | 0.02                    | 2.5                     | 2.1        | 12.8        |
| Flash Tube Dryer #2 + Heater #2 | 4.5        | 3.4                      | 0.02                    | 2.5                     | 2.1        | 12.8        |

GO Lab shall have a facility-wide annual VOC emission limit of 49.9 tons per year calculated using the following formula:

$$[(\text{ODT of spruce/fir}) \times (1.5 \text{ lb VOC/ODT})] / 2000 + [(*\text{natural gas fired, MMscf}) \times (11 \text{ lb VOC/MMscf})]$$

- \* The natural gas fired is the total amount fired in Boiler #1, the Flash Tube Dryer Heaters #1 and #2, and the Batt Line Heater.

VOC annual emissions shall be calculated both on a monthly and 12-month rolling total basis.

To ensure GO Lab stays below major source thresholds, without the use of the Condenser Control System, the facility shall be limited to 120,000 tons of wood chips (at ~50% moisture) processed per year. The amount of wood chips processed shall be determined and recorded both on a monthly and 12-month rolling total basis.

4. The combined (process and combustion) emission limits for the Flash Tube Dryers and Heaters #1 and #2 with the Condenser Control System are as follows:

| 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) | VOC (lb/hr) |
|---------------------------------|------------|--------------------------|-------------------------|-------------------------|------------|-------------|
| Flash Tube Dryer #1 + Heater #1 | 0.23       | 0.17                     | 0.02                    | 2.5                     | 2.1        | 0.64        |
| Flash Tube Dryer #2 + Heater #2 | 0.23       | 0.17                     | 0.02                    | 2.5                     | 2.1        | 0.64        |

If the Condenser Control System is in use, the formula will account for the estimated 95% control efficiency. GO Lab shall have a facility-wide annual VOC emission limit of 49.9 tons per year calculated using the following formula when the Condenser Control System is in use:

$$[(\text{ODT of spruce/fir}) \times (1.5 \text{ lb VOC/ODT})] / 2000 \times (0.05) + [(*\text{natural gas fired, MMscf}) \times (11 \text{ lb VOC/MMscf})]$$

- \* The natural gas fired is the total amount fired in Boiler #1, the Flash Tube Dryer Heaters #1 and #2, and the Batt Line Heater.

Please note, the previous limit of 120,000 tons of wood chips (at ~50% moisture) processed per year does not apply when the Condenser Control System is in operation, but the 49.9 tons per year VOC limit continues to apply in all scenarios.

5. Visible Emissions

- a. Visible emission from each Flash Tube Dryer stack shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]
- b. Upon installation and operation of the Condenser Control System, the Flash Tube Dryer and Heater lines shall exhaust into a combined stack. Visible emissions from the combined stack shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

6. Stack Testing

- a. Within 270 days of each Flash Tube Dryer process starting up, GO Lab shall conduct stack testing to demonstrate compliance with the lb/hr emission limits for PM, PM<sub>10</sub>, and VOC listed below, as well as to demonstrate that the lb/ODT emission factors used to develop the lb/hr emission limits and listed in the table below are appropriate.
- b. Within 270 days of installation the Condenser Control Systems, GO Lab shall conduct stack testing to demonstrate the level of VOC, PM, and PM<sub>10</sub> control efficiency achieved as well as to demonstrate compliance with the lb/hr emission limits for PM, PM<sub>10</sub>, and VOC applicable when Condenser Control Systems are in use.
- c. GO Lab shall submit a stack test protocol in accordance with the Department's Performance Testing Guidance and submit a protocol at least 30 days prior to the scheduled date of the performance test. [06-096 C.M.R. ch. 115, BPT]

The Department's Performance Testing Guidance is available online at:  
<https://www.maine.gov/dep/air/emissions/testing.html>

In addition, GO Lab shall submit stack test results and use methods approved by the Department as outlined in the Standard Conditions of this license.

- d. Each Flash Tube Dryer and Heater line combined exhaust vent shall be tested to demonstrate compliance with the emission limits listed below. Testing shall be performed in accordance with the compliance methods in the following table



| Pollutant        | Without Condenser Control System<br>lb/hr | With Condenser Control System<br>lb/hr | Compliance Method   |
|------------------|---|--|---|
| PM               | 4.5                                       | 0.23                                   | 40 C.F.R. Part 60, App. A, Method 5   |
| PM <sub>10</sub> | 3.4<br>(filterable + Condensable)         | 0.17<br>(filterable + Condensable)     | 40 C.F.R. Part 60, App. A, Method 5 or EPA Test Method 201 or 201A and Method 202 |
| VOC              | 12.8                                      | 0.64                                   | 40 C.F.R. Part 60, App. A, Method 25 or 25A                                       |

e. Because the actual VOC process emissions are expected to be lower than the licensed emission limit, GO Lab may choose to amend their licensed emission limit, facility-wide annual VOC emission limit, and/or their total production rate limit based on the stack testing results.

7. Periodic Monitoring and Recordkeeping

a. GO Lab shall weigh, measure, and calculate the tons of spruce/fir processed on a monthly basis. The moisture content of the wood shall be determined monthly. [06-096 C.M.R. ch. 115, BACT]

Periodic monitoring for the Flash Tube Dryer and Heater #1 and #2 shall include recordkeeping to document the amount of biomass and natural gas used both on a monthly and calendar year total basis. [06-096 C.M.R. ch. 115, BACT]

b. GO Lab shall operate the high efficiency cyclone anytime its associated Flash Tube Dryer is in operation.

c. The high efficiency cyclones shall be inspected at least monthly.

d. GO Lab shall maintain records documenting all routine and non-routine maintenance for the high efficiency cyclones.

e. If installed, GO Lab shall operate the Condenser Control System anytime the Flash Tube Dryers and Heaters of its associated line are in operation.

f. The Condenser Control Systems shall be operated in accordance with manufacturer's specifications.

- g. GO Lab shall submit a proposed operation, maintenance, and monitoring plan for the operation of the Condenser Control Systems for approval by the Department. GO Lab shall amend their license to incorporate the operating parameters, work practices, and operational requirements found in the operation, maintenance, and monitoring plan upon submittal of the plan and approval by the Department.

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:

- A Facility-wide annual VOC emission limit of 49.9 tpy;
- Boiler #1, Flash Tube Dryer Heaters #1 & #2, and Batt Line Heater are in operation for 8,760 hr/yr each; and
- Use of the Condenser Control Systems is not considered in the calculations.

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 <sub>10</sub> | SO <sub>2</sub> | NO <sub>x</sub> | CO          | VOC         |
|-------------------------------------|-------------|------------------|-----------------|-----------------|-------------|-------------|
| Boiler#1                            | 2.1         | 1.6              | 0.1             | 15.0            | 32.1        | 2.3         |
| Flash Tube Dryers #1 and #2         | 15          | 11.3             | --              | --              | --          | 45          |
| Flash Tube Dryers Heaters #1 and #2 | 2.2         | 1.7              | 0.1             | 22.0            | 18.5        | 2.4         |
| Batt Line Heater                    | 0.2         | 0.2              | 0.1             | 2.2             | 1.8         | 0.2         |
| <b>Total TPY</b>                    | <b>19.5</b> | <b>14.8</b>      | <b>0.3</b>      | <b>39.2</b>     | <b>52.4</b> | <b>49.9</b> |

| 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 <sub>10</sub>  | 25        |
| PM <sub>2.5</sub> | 15        |
| SO <sub>2</sub>   | 50        |
| NO <sub>x</sub>   | 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-1151-71-B-A subject to the conditions found in Air Emission License A-1151-71-A-N 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 replaces Specific Condition (18) in A-1151-71-A-N (May 7, 2020).

### (18) Flash Tube Dryers and Heaters #1 and #2

#### A. Annual Limits

1. GO Lab shall be limited to 120,000 tons of wood chips (at ~50% moisture) processed per year unless additional emissions controls are operated. This amount shall be calculated on a monthly and 12-month rolling total basis.
2. The process rate limit of 120,000 tons of wood chips per year shall not be exceeded until the installation and operation of Condenser Control Systems on one or both dryers as necessary to maintain facility-wide annual VOC emissions at or below 49.9 tons/year is completed.
3. GO Lab shall demonstrate compliance with the facility-wide annual VOC emission limit of 49.9 tons using the following formula without the Condenser Control System:

$$\begin{aligned} & [(ODT \text{ of spruce/fir}) \times (1.5 \text{ lb VOC/ODT}) / 2000] \\ & + [(*\text{natural gas fired, MMscf}) \times (11 \text{ lb VOC/MMscf})] \end{aligned}$$

\* The natural gas fired is the total amount fired in Boiler #1, the Flash Tube Dryer Heaters #1 and #2, and the Batt Line Heater.

4. If the Condenser Control System is in operation, then the following formula shall be used with an estimated 95% VOC control efficiency to demonstrate compliance with the facility-wide annual VOC emission limit:

$$\begin{aligned} & [(ODT \text{ of spruce/fir}) \times (1.5 \text{ lb VOC/ODT}) / 2000 \times (0.05)] \\ & + [(*\text{natural gas fired, MMscf}) \times (11 \text{ lb VOC/MMscf})] \end{aligned}$$

\* The natural gas fired is the total amount fired in Boiler #1, the Flash Tube Dryer Heaters #1 and #2, and the Batt Line Heater.

#### B. Process Limits [06-096 C.M.R. ch. 115, BACT]

1. GO Lab shall weigh, measure, and calculate the tons of spruce/fir processed on a monthly basis. The moisture content of the wood shall be determined on a monthly basis and the amount of natural gas used by the facility on a monthly basis.

2. Within 270 days of each flash tube dryer process starting up, GO Lab shall conduct stack testing to demonstrate compliance with the lb/hr emission limits for PM, PM<sub>10</sub>, and VOC listed below, as well as to demonstrate that the lb/ODT emission factors used to develop the lb/hr emission limits and listed in the table below are appropriate.
3. Within 270 days of installation of the Condenser Control Systems, GO Lab shall conduct stack testing to demonstrate the level of VOC, PM, and PM<sub>10</sub> control efficiency achieved as well as to demonstrate compliance with the lb/hr emission limits for PM, PM<sub>10</sub>, and VOC listed below
4. GO Lab shall submit a stack test protocol in accordance with the Department's Performance Testing Guidance and submit a protocol at least 30 days prior to the scheduled date of the performance test. [06-096 C.M.R. ch. 115, BPT]

The Department's Performance Testing Guidance is available online at:  
<https://www.maine.gov/dep/air/emissions/testing.html>

In addition, GO Lab shall submit stack test results and use methods approved by the Department as outlined in the Standard Conditions of this license.

5. Each Flash Tube Dryer and Heater stack or Condenser Control System exhaust shall be tested to demonstrate compliance with the emission limits listed below. Testing shall be performed in accordance with the compliance methods listed below:

| <b>Pollutant</b> | <b>Without Condenser Control System<br/>lb/hr</b> | <b>With Condenser Control System<br/>lb/hr</b> | <b>Compliance Method</b>  |
|------------------|---|--|---|
| PM               | 4.5   | 0.23   | 40 C.F.R. Part 60, App. A, Method 5   |
| PM <sub>10</sub> | 3.4<br>(filterable +<br>Condensable)              | 0.17<br>(filterable +<br>Condensable)          | 40 C.F.R. Part 60, App. A, Method 5 or EPA Test Method 201 or 201A and Method 202 |
| VOC              | 12.8  | 0.64   | 40 C.F.R. Part 60, App. A, Method 25 or 25A                                       |

6. In the event the actual VOC process emissions are lower than the licensed emission limit, GO Lab may choose to amend their licensed emission limit, facility-wide annual VOC emission limit, and/or their total production rate limit based on the stack testing results.

C. The emission limits for Flash Tube Dryers and Heaters #1 and #2 without Condenser Control Systems are as follows:

| 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) | VOC (lb/hr) |
|---------------------------------|------------|--------------------------|-------------------------|-------------------------|------------|-------------|
| Flash Tube Dryer #1 + Heater #1 | 4.5        | 3.4                      | 0.02                    | 2.5                     | 2.1        | 12.8        |
| Flash Tube Dryer #2 + Heater #2 | 4.5        | 3.4                      | 0.02                    | 2.5                     | 2.1        | 12.8        |

[06-096 C.M.R. ch. 115, BACT]

D. The combined (process and combustion) emission limits for the Flash Tube Dryers and Heaters #1 and #2 with the Condenser Control System are as follows:

| 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) | VOC (lb/hr) |
|---------------------------------|------------|--------------------------|-------------------------|-------------------------|------------|-------------|
| Flash Tube Dryer #1 + Heater #1 | 0.23       | 0.17                     | 0.02                    | 2.5                     | 2.1        | 0.64        |
| Flash Tube Dryer #2 + Heater #2 | 0.23       | 0.17                     | 0.02                    | 2.5                     | 2.1        | 0.64        |

E. Flash Tube Dryers Heaters #1 and #2

1. The Flash Tube Dryer Heaters #1 and #2 are licensed to fire natural gas.
2. GO Lab shall maintain records showing the quantity of natural gas used by these heaters both on a monthly and 12-month rolling total basis.  
 [06-096 C.M.R. ch. 115, BACT]

F. Visible Emissions

1. Visible emission from each Flash Tube Dryer stack shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]
2. Once the Condenser Control System is in operation, the visible emission from the combined stack shall not exceed 20% opacity on a six-minute block average basis.  
 [06-096 C.M.R. ch. 115, BACT]:

G. Periodic Monitoring and Recordkeeping

1. Periodic monitoring for the Flash Tube Dryer and Heater #1 and #2 shall include recordkeeping to document the amount of biomass and natural gas used both on a monthly and calendar year total basis. [06-096 C.M.R. ch. 115, BACT]

2. High Efficiency Cyclones

- a. GO Lab shall operate the high efficiency cyclone anytime its associated Flash Tube Dryer is in operation.
- b. The high efficiency cyclones shall be inspected at least monthly.
- c. GO Lab shall maintain records documenting all routine and non-routine maintenance for the high efficiency cyclones. [06-096 C.M.R. ch. 115, BACT]

3. Condenser Control Systems

- a. Upon installation, GO Lab shall operate the Condenser Control System anytime the Flash Tube Dryers and Heaters of its associated line are in operation.
- b. The Condenser Control Systems shall be operated in accordance with manufacturer's specifications.
- c. GO Lab shall submit a proposed operation, maintenance, and monitoring plan for the operation of the Condenser Control Systems for approval by the Department. GO Lab shall amend their license to incorporate the operating parameters, work practices, and operational requirements found in the operation, maintenance, and monitoring plan upon submittal of the plan and approval by the Department.

DONE AND DATED IN AUGUSTA, MAINE THIS 18<sup>th</sup> 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-1151-71-A-N.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 9/14/2021  
Date of application acceptance: 9/20/2021

Date filed with the Board of Environmental Protection:

This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

**FILED**  
**NOV 18, 2021**  
**State of Maine**  
**Board of Environmental Protection**