



DEPARTMENT ORDER

**T&D Wood Energy LLC**  
**York County**  
**Sanford, Maine**  
**A-1129-71-E-M**

**Departmental**  
**Findings of Fact and Order**  
**Air Emission License**  
**Amendment #3**

**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

T&D Wood Energy LLC (T&D Wood) and co-applicant Player Design, Inc. (PDI) were issued Air Emission License A-1129-71-A-N on April 24, 2018, for the operation of emission sources associated with a wood pellet manufacturing facility.

The license was subsequently amended as follows:

<b>Amendment #</b>	<b>Date Issued</b>	<b>Brief Description</b>
A-1129-71-B-A	May 20, 2021	<ul style="list-style-type: none"><li>• Remove the previously permitted multiclone;</li><li>• Revise the stack height and diameter; and</li><li>• Add Pre-Grinder #1.</li></ul>
A-1129-71-C-A	July 25, 2023	<ul style="list-style-type: none"><li>• Remove PDI as a co-licensee;</li><li>• Revise the Best Available Control Technology (BACT) analysis for emissions of volatile organic compounds (VOC) from Dryer #1;</li><li>• Increase the time the bypass stack may be used during startup;</li><li>• Clarify the visible emissions limits for Stack #1 and the bypass stack;</li><li>• Remove the previously licensed Pre-Grinder #1; and</li><li>• Clarify the particulate matter controls used on the dry storage silo and the pelletizer building.</li></ul>

The equipment addressed in this license amendment is located at 36 Lefrancois Lane in Sanford, Maine.

T&D Wood has requested a minor revision to their license in order to manufacture wood pellets from material that has been dried off-site without that material being considered in demonstrating compliance with the facility-wide VOC emission limit.

B. Emission Equipment

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

**Process Equipment**

<b>Equipment</b>	<b>Maximum Finished Material Process Rate</b>	<b>Pollution Control Equipment</b>	<b>Stack #</b>
Dryer #1	5 ODT/hr <sup>a</sup>	None	1

<b>Equipment</b>	<b>Max Finished Material Process Rate</b>	<b>Pollution Control Equipment</b>	<b>Stack #</b>
Pelletizer	6 ton/hr <sup>a</sup>	None	N/A
Pellet Cooler	6 ton/hr <sup>a</sup>	None	N/A

<sup>a</sup> This is the nominal process rate and does not represent a production rate limit.

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.

This amendment will not increase licensed emissions of any pollutant. Therefore, this amendment is determined to be a minor revision and has been processed as such.

E. Facility Classification

With the annual operating hours restriction on Burner #1 and the facility-wide VOC limit, the facility is licensed as follows:

- As a synthetic minor source of air emissions for criteria pollutants, because T&D Wood is subject to license restrictions that keep facility emissions below major source thresholds for VOC; 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.

## 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.

### B. Revision Description

VOC emissions from T&D Wood come from the dryer system as a result of incomplete combustion and the release of naturally occurring VOC from the wood material being dried in the dryer. Uncontrolled emissions of VOC from T&D Wood have the potential to exceed 50 tpy, at or above this level the facility would be considered a major source of VOC emissions and required to be licensed as a major source. In order to be considered a synthetic minor source, T&D Wood must demonstrate on-going compliance with an annual facility-wide VOC emissions limit of 49.9 tpy on a 12-month rolling total basis.

T&D Wood is currently required to demonstrate compliance with the annual VOC limit of 49.9 tpy by recordkeeping that includes the tons of finished pellets produced on a calendar month basis and the calculation of the corresponding VOC emissions (calendar month and 12-month rolling total basis) using the most current emission factor as approved by the Department. As of the date of this license, the emission factor to be used is 5.11 lb/ton of pellets.

T&D Wood has requested the ability to receive material that has been dried off-site and use it to manufacture pellets without the associated tonnage being included in the calculation used to demonstrate compliance with the annual VOC emission limit. This material would be introduced into the manufacturing process downstream of the dryer, i.e., it would not go through the dryer nor be exposed to the exhaust gases from the burner. This pre-dried material would be fed by front-end loader into a receiving bin. From there, a screw conveyor would feed the material onto the existing enclosed belt that feeds the existing dry material hammermill. It would then be processed by the facility's existing downstream equipment in the same manner as material dried on-site.

The Department requires recordkeeping of pre-dried material usage to accurately determine VOC emissions from the facility. T&D Wood has proposed the following

recordkeeping to document the amount (tons) of pellets produced by the facility that may be omitted from the calculation used to demonstrate compliance with the annual VOC limit.

- Tons of pre-dried wood in each delivery received through use of the facility's truck scales, summed on a monthly basis; and
- Tons of pre-dried wood fed into the process based on weighing each bucket load added to the system using wheel loader scales, summed on a monthly basis.

T&D Wood has also proposed the following work practice standards. Pre-dried wood received from off-site shall be:

- Stored separately from green wood;
- Stored under cover; and
- Introduced into the process through use of a receiving bin downstream of the dryer.

Although there may be emissions of VOC from the facility's pelletizer and pellet cooler, such sources have not traditionally been quantified by the Department. Therefore, additional material processed through only these units is not considered in the facility's calculations to demonstrate compliance with their annual VOC limit.

As proposed, the pelletizing of the wood dried off-site will not increase actual emissions of any pollutant as quantified by the facility's air emission license. Therefore, this change is not considered a modification as that term is defined in 06-096 C.M.R. ch. 100.

T&D Wood must continue to demonstrate compliance with the annual VOC limit. The Department finds that the recordkeeping and work practice standards proposed by T&D Wood to be adequate to document the amount of dried wood received and fed into the process but that additional recordkeeping is necessary to determine the weight of pellets produced from this pre-dried wood.

The wood fed into the pelletizer has an expected moisture content of approximately 9-11% by weight. Finished pellets have a moisture content of 5%. The weight of the moisture lost through the pelletizing process must be accounted for when calculating the tonnage of pellets that can be subtracted from total production. Therefore, T&D Wood shall also measure and record the moisture content of the pre-dried wood fed into the process. Measurements shall be made at a minimum of once per day whenever pre-dried wood is being pelletized.

The Department finds that pellets produced from pre-dried material may be excluded when calculating annual VOC emissions. Compliance with the annual VOC limit of 49.9 tpy shall be demonstrated by calculating VOC emissions on a calendar month basis in accordance with the following formula and summing the previous 12 calendar months to determine the 12-month rolling total.

$$VOC = \{P_T - W_D [1 - (M - 0.05)]\} \times EF \div 2000$$

Where:

- VOC* = tons of VOC emitted in a month  
*P<sub>T</sub>* = total tons of pellets produced in the month  
*W<sub>D</sub>* = tons of pre-dried wood received from off-site and fed into the process downstream of Dryer #1 in the month  
*M* = the average moisture content of the pre-dried wood fed into the process for the month based on the average of the individual daily moisture measurements. This number is expressed as a decimal, e.g., 10% moisture equals 0.10.  
*EF* = Department-approved emission factor, i.e., lb VOC/ton of pellets

T&D Wood shall keep the following records to demonstrate compliance with the annual VOC limit:

1. Tons of finished pellets produced on a daily, monthly, and 12-month rolling total basis;
2. Tons of pre-dried wood received from off-site and fed into the process downstream of Dryer #1 on a daily, monthly, and 12-month rolling total basis; and
3. The moisture content of the pre-dried wood fed into the process measured on a daily basis and recorded on daily basis and monthly average.

This license makes no changes to the established limit for facility-wide VOC emissions, nor does it make any changes to the compliance demonstration other than to allow for the pelletizing of wood pre-dried off-site and to clarify how VOC emissions are calculated.

### C. Emission Statements

T&D Wood is subject to emissions inventory requirements contained in *Emission Statements*, 06-096 C.M.R. ch. 137. T&D Wood shall maintain the following records in order to comply with this rule:

1. Tons of pellets produced on a monthly and calendar year basis;
2. Tons of pre-dried wood fed into the process;
3. Moisture content of the pre-dried wood fed into the process;
4. Total hours of operation of Burner #1 and Dryer #1 on a monthly and calendar year basis; and

5. Calculations of VOC emissions on a calendar year total basis.

Every third year, or as requested by the Department, T&D Wood shall report to the Department emissions of hazardous air pollutants as required pursuant to 06-096 C.M.R. ch. 137, § (3)(C). The next report is due no later than May 15, 2024, for emissions occurring in calendar year 2023. The Department will use these reports to calculate and invoice for the applicable annual air quality surcharge for the subsequent three billing periods. T&D Wood shall pay the annual air quality surcharge, calculated by the Department based on these reported emissions of hazardous air pollutants, by the date required in Title 38 M.R.S. § 353-A(3). [38 M.R.S. § 353-A(1-A)]

D. 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 <sub>10</sub>	25
PM <sub>2.5</sub>	15
SO <sub>2</sub>	50
NO <sub>x</sub>	50
CO	250

An ambient air quality impact analysis was previously performed for T&D Wood as outlined in Air Emission License A-1129-71-B-A (5/20/2021) demonstrating that emissions from the facility, in conjunction with all other sources, do not violate Ambient Air Quality Standards (AAQS). An additional air quality impact analysis is not required for this amendment.

This determination is based on information provided by the applicant regarding licensed 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 T&D Wood 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-1129-71-E-M subject to the conditions found in Air Emission License A-1129-71-A-N, in amendments A-1129-71-B-A and A-1129-71-C-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 (19)(B) of Air Emission License A-1129-71-C-A:**

#### (19) Facility-Wide VOC Limit

##### B. Compliance Demonstration

1. Compliance with the annual VOC limit of 49.9 tpy shall be demonstrated by calculating VOC emissions on a calendar month basis in accordance with the following formula and summing the previous 12 calendar months to determine the 12-month rolling total.

$$VOC = \{P_T - W_D [1 - (M - 0.05)]\} \times EF \div 2000$$

Where:

$VOC$	=	tons of VOC emitted in a month
$P_T$	=	total tons of pellets produced in the month
$W_D$	=	tons of pre-dried wood received from off-site and fed into the process downstream of Dryer #1 in the month
$M$	=	the average moisture content of the pre-dried wood fed into the process for the month based on the average of the individual daily moisture measurements. This number is expressed as a decimal, e.g., 10% moisture equals 0.10.
$EF$	=	Department-approved emission factor, i.e., lb VOC/ton of pellets

Note: In accordance with Air Emission License A-1129-71-C-A (7/25/2023), the 12-month rolling total does not need to go back further than July 2023.

2. Calculation of VOC emissions for each calendar month and 12-month rolling total basis shall be completed no later than the 15<sup>th</sup> day of each following calendar month. T&D Wood shall record these results, and, upon request, make them available to the Department within seven calendar days.
3. T&D Wood shall comply with the following work practice standards. Pre-dried wood received from off-site shall be:
  - a. Stored separately from green wood;
  - b. Stored under cover; and
  - c. Introduced into the process through use of a receiving bin downstream of the dryer.
4. T&D Wood shall report the facility's 12-month rolling total VOC emissions to the Department semiannually by January 31<sup>st</sup> and July 31<sup>st</sup> of each year.
5. Upon written approval by the Department, the results of any new VOC performance testing shall be averaged with previously approved tests from September 16, 2021, and onward to establish a new emission factor (lb/ton of pellets). Changes to the emission factor used for compliance demonstration require written approval from the Department and shall apply only to the calendar month in which the testing occurred and all subsequent months until approval of a new emission factor, i.e., calculation of VOC emissions for previous months must use the previous emission factor in use at the time.

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

**The following shall replace Condition (20)(A) of Air Emission License A-1129-71-C-A:**

**(20) Wood Handling and Pellet Processing Operations**

- A. All exterior conveyors and screw augers shall be equipped and operated with covers.  
[06-096 C.M.R. ch. 115, BACT]



**The following shall replace Condition (21) of Air Emission License A-1129-71-C-A:**

**(21) Periodic Monitoring and Recordkeeping**

*Note: Additional recordkeeping requirements pursuant to Emission Statements, 06-096 C.M.R. ch. 137, are addressed in Condition (23).*

T&D Wood shall monitor, record, and keep the following records, as applicable:

- A. Records for Burner #1 of all startups, shutdowns, and malfunctions including date, time, duration, cause, method utilized to minimize duration of the event and/or to prevent reoccurrence, and whether the bypass stack was utilized and for how long; [06-096 C.M.R. ch. 115, BACT (A-1129-71-C-A, 7/25/2023)]
- B. Dryer #1 inlet temperature on a continuous basis and calculated 1-hr block averages; [06-096 C.M.R. ch. 115, BACT (A-1129-71-C-A, 7/25/2023)]
- C. Records of monthly inspections of all facility cyclones and cartridge filters; [06-096 C.M.R. ch. 115, BACT (A-1129-71-C-A, 7/25/2023)]
- D. Records of any cyclone or cartridge filter malfunction, corrective action taken, and all maintenance activities; [06-096 C.M.R. ch. 115, BACT (A-1129-71-C-A, 7/25/2023)]
- E. Tons of finished pellets produced on a daily, monthly, and 12-month rolling total basis; [06-096 C.M.R. ch. 115, BACT]
- F. Tons of pre-dried wood in each delivery received through use of the facility's truck scales summed on a monthly basis; [06-096 C.M.R. ch. 115, BACT]
- G. Tons of pre-dried wood fed into the process based on use of a wheel loader scale to weigh the dried material fed into the process. Records of pre-dried wood fed into the process shall be kept on a daily, monthly, and 12-month rolling total basis. [06-096 C.M.R. ch. 115, BACT] and
- H. The moisture content of the pre-dried wood fed into the process measured on a daily basis and recorded on daily basis and monthly average. [06-096 C.M.R. ch. 115, BACT]

**The following shall replace Condition (23) of Air Emission License A-1129-71-C-A:**

**(23) Annual Emission Statements**

- A. In accordance with *Emission Statements*, 06-096 C.M.R. ch. 137, T&D Wood shall annually report to the Department, in a format prescribed by the Department, the information necessary to accurately update the State's emission inventory. The emission statement shall be submitted as specified by the date in 06-096 C.M.R. ch. 137.

- B. T&D Wood shall keep the following records in order to comply with 06-096 C.M.R. ch. 137:
1. Tons of pellets produced on a monthly and calendar year basis;
  2. Tons of pre-dried wood fed into the process;
  3. Moisture content of the pre-dried wood fed into the process;
  4. Total hours of operation of Burner #1 and Dryer #1 on a monthly and calendar year basis; and
  5. Calculations of VOC emissions on a calendar year total basis.  
[06-096 C.M.R. ch. 137]
- C. Every third year, or as requested by the Department, T&D Wood shall report to the Department emissions of hazardous air pollutants as required pursuant to 06-096 C.M.R. ch. 137, § (3)(C). The next report is due no later than May 15, 2024, for emissions occurring in calendar year 2023. T&D Wood shall pay the annual air quality surcharge, calculated by the Department based on these reported emissions of hazardous air pollutants, by the date required in Title 38 M.R.S. § 353-A(3).  
[38 M.R.S. § 353-A(1-A)]

DONE AND DATED IN AUGUSTA, MAINE THIS 1<sup>st</sup> DAY OF MAY, 2024.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for  
MELANIE LOYZIM, COMMISSIONER

**The term of this license amendment shall be ten (10) years from the issuance of Air Emission License A-1129-71-A-N (issued 4/24/2018).**

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 1/23/2024

Date of application acceptance: 1/23/2024

Date filed with the Board of Environmental Protection:

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

