



DEPARTMENT ORDER

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

Departmental
Findings of Fact and Order
Air Emission License
Amendment #4

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:

Amendment #	Date Issued	Brief Description
A-1129-71-B-A	May 20, 2021	<ul style="list-style-type: none">• Remove the previously permitted multiclone;• Revise the stack height and diameter; and• Add Pre-Grinder #1.
A-1129-71-C-A	July 25, 2023	<ul style="list-style-type: none">• Remove PDI as a co-licensee;• Revise the Best Available Control Technology (BACT) analysis for emissions of volatile organic compounds (VOC) from Dryer #1;• Increase the time the bypass stack may be used during startup;• Clarify the visible emissions limits for Stack #1 and the bypass stack;• Remove the previously licensed Pre-Grinder #1; and• Clarify the particulate matter controls used on the dry storage silo and the pelletizer building.
A-1129-71-E-M	May 1, 2024	<ul style="list-style-type: none">• Address processing pre-dried wood

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

T&D Wood has requested an amendment to their license in order to revise the BACT analysis for particulate matter from the combined stack for Burner #1 and Dryer #1. T&D Wood also requested an increase on the limit to the inlet temperature to Dryer #1.

In addition, the Department is taking this opportunity to update visible emission standards as necessary due to recent changes to 06-096 Code of Maine Rules (C.M.R.) ch. 101, *Visible Emissions Regulation*.

B. Emission Equipment

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

Wood Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (ton/hr)	Fuel Type	Pollution Control Equipment	Stack #
Burner #1	27.2 ^a	2.75 ^a	wood/biomass	None	1

^a Based on firing wood with a moisture content of 45% by weight.

Process Equipment

Equipment	Maximum Finished Material Process Rate	Pollution Control Equipment	Stack #
Dryer #1	5 ODT/hr ^b	None	1

^b This is the nominal process rate and does not represent a production rate limit.

C. Definitions

Biomass means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings). This definition also includes wood chips and processed pellets made from wood or other forest residues. Inclusion in this definition does not constitute a determination that the material is not considered a solid waste. T&D Wood should consult with the Department before adding any new biomass type to its fuel mix.

Continuous. For the purposes of this license, continuous means at least three (3) data points in each full operating hour with at least one (1) data point in each half-hour period.

Records or Logs mean either hardcopy or electronic records.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the date this license was issued.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emissions” 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	40.3	65.7	+25.4	100
PM ₁₀	40.3	65.7	+25.4	100
PM _{2.5}	19.1	43.8	+24.7	100
SO ₂	3.0	3.0	–	100
NO _x	19.1	19.1	–	100
CO	34.2	34.2	–	100
VOC	49.9	49.9	–	50*

* T&D Wood 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 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 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. Burner #1/Dryer #1

Dryer #1 is a direct-fired, single-pass, rotary drum dryer with a maximum hourly throughput rate of approximately 5-10 oven-dried ton per hour (ODT/hr). T&D Wood currently processes 100% softwood, primarily white pine, but is not prohibited from processing other softwood or hardwood species.

Heat for Dryer #1 is provided by Burner #1 which has a maximum fuel firing rate of 2.75 ton/hr of biomass based on a moisture content of 45% by weight. This equates to a heat input capacity of 27.2 MMBtu/hr. Burner #1 fires a mixture of bark, green wood, sawdust, and dried fines recovered from the process.

Emissions from both Burner #1 and Dryer #1 exhaust through the main stack (Stack #1) except for periods of startup, shutdown, and malfunction, during which time Burner #1 may exhaust to a bypass stack.

1. Dryer Inlet Temperature

The inlet temperature to Dryer #1 is limited to 650 °F pursuant to a previous BACT analysis. This limit was established in Air Emission License A-1129-71-A-N (4/24/2018), prior to the facility's construction.

T&D Wood has requested increasing this limit. A new limit of 800 °F was proposed, but T&D Wood indicated they would accept any increase the Department deemed acceptable.

T&D Wood submitted statements saying that to accommodate the current license limit of 650 °F, they frequently have to make manual adjustments to the system. This results in swings in production and burner operation and contributes to short-term disruptions.

The drying of pine species can cause visible emissions, often in the form of a blue smoke or haze. Such emissions have been witnessed by Department staff at T&D Wood. The likelihood of this occurring increases with increased dryer inlet temperature.

The drying of pine species also results in emissions of volatile organic compounds (VOC) when naturally occurring organic compounds are driven from the wood along with the water. These emissions are expected to increase with increased temperature.

T&D Wood is limited to facility-wide emissions of no more than 49.9 tpy of VOC on a 12-month rolling total basis. This limit is necessary to ensure T&D Wood does not exceed significant emission levels and be classified as a major source of air emissions. Historically, T&D Wood has operated very close to this limit. Compliance is demonstrated by calculating actual VOC emissions on a monthly and 12-month rolling total basis based on records of pellet production and an emission factor of lb VOC/ton of pellets produced. The emission factor is based on the average results of performance testing conducted at the facility since September 16, 2021. Of the six tests included, only two were conducted at temperatures above 650 °F.

T&D Wood has not demonstrated that operation at a dryer inlet temperature above 650 °F would not cause an increase in visible emissions or in emissions of VOC or PM. Further, T&D Wood has not demonstrated the facility would be able to comply with the annual VOC emission limit at a higher dryer inlet temperature. The Department does not find the evidence provided by T&D Wood to be sufficient and concludes that increasing the dryer inlet temperature limit would likely increase emissions and would not represent Best Practical Treatment. T&D Wood's request to increase the dryer inlet temperature is therefore denied.

2. BACT for Particulate Matter (PM, PM₁₀, and PM_{2.5})

Results of recent performance testing have indicated that the equipment, as currently designed and operated, is not capable of meeting the current particulate matter limits at higher processing rates. In order to address on-going noncompliance with the currently established particulate matter lb/hr emission limits, T&D Wood has requested an increase in the hourly emission limits for particulate matter (PM, PM₁₀, and PM_{2.5}) and has supplied an updated BACT analysis in support of increasing the particulate matter emission limits associated with Stack #1.

a. Identify Potential Control Options

In their BACT analysis, T&D Wood considered the environmental, economic, and energy related impacts associated with various control options and based on their proposed increase in the hourly emission limits for PM, PM₁₀, and PM_{2.5}. The BACT analysis evaluated the impacts associated with the installation and operation

of additional control equipment, including regenerative thermal oxidizers (RTO), electrostatic precipitators (ESP), and wet scrubbers. In addition, the Department has considered the installation and operation of a multicyclone and a baghouse as potentially viable control equipment.

(1) Regenerative Thermal Oxidizers

RTOs reduce organic particulate matter by completing combustion of any unburned material. RTOs are designed to preheat the inlet emission stream with heat recovered from the exhaust gases, with a heat recovery rate of around 90%. Gases entering an RTO are heated by passing through preheated beds packed with a ceramic media. A gas burner brings the preheated emissions up to an incineration temperature of approximately 1,600 °F in a combustion chamber with sufficient residence time of the emission stream gases to complete combustion. Combustion gases then pass through a cooled ceramic bed where heat is extracted. By reversing the flow through the beds, the heat transferred from combustion exhaust air preheats the gases to be treated, thereby reducing auxiliary fuel requirements.

(2) ESPs/WESPs

ESPs work by charging particles in the exhaust stream with a high voltage, which are then drawn to oppositely charged collection surfaces where the particles accumulate, removing the collected dust by a rapping process, and collecting the dust in hoppers.

In a wet ESP (WESP), gases exiting the dryer would enter a pre-quench to cool and saturate the gases before they enter the ESP. The pre-quench is essentially a low-energy scrubber that sprays water into the incoming gas stream. Some fraction of the highly water-soluble compounds may be scrubbed by the pre-quench and collected.

An ESP or WESP collects only particles and droplets that can be electrostatically charged. This is not true of all particulate matter, especially condensable particulate matter. Also, the ability of the WESP to absorb water-soluble compounds diminishes as the recirculating liquid becomes saturated with these compounds.

(3) Wet Scrubbers

Wet scrubbers remove particulate matter from gas streams primarily through impaction and, to a lesser extent, other mechanisms such as interception and diffusion. T&D Wood considered the use of a venturi scrubber which accelerates the waste gas stream to atomize the scrubbing liquid and improve gas-liquid contact. A “throat” section is built into the duct that forces the gas stream to accelerate as the duct narrows and then expands. As the gas enters the venturi throat, both gas velocity and turbulence increase. The scrubbing liquid (typically water) is sprayed into the gas stream near the throat. Contact between

the larger scrubbing liquid droplets and the suspended particulates removes the particulate matter from the gas stream. Entrained liquid droplets are then separated from the gas stream by an entrainment section usually consisting of a cyclonic separator and/or mist eliminator.

(4) Multicyclones

Mechanical separators include cyclonic and inertial separators. In a multicyclone, centrifugal force separates larger particulate matter from the gas stream. The exhaust gas enters a cylindrical chamber on a tangential path and is forced along the outside wall of the chamber at a high velocity, causing the PM to impact collectors on the outer wall of the unit and fall into a hopper for collection.

(5) Baghouses

Baghouses consist of a number of fabric bags placed in parallel that collect particulate matter on the surface of the filter bags as the exhaust stream passes through the fabric membrane. The collected particulate is periodically dislodged from the bags' surface to collection hoppers via short blasts of high-pressure air, physical agitation of the bags, or by reversing the gas flow.

b. Eliminate Infeasible Control Options

(1) Regenerative Thermal Oxidizers

RTOs are commonly used to control emissions from similar types of dryers at larger wood pellet production facilities and are therefore technically feasible for this facility. However, when treating an exhaust stream with organic materials that can clog the RTO's packed bed, pretreatment of the gas stream to remove these materials is required.

The maximum tons of pellets that T&D Wood can currently produce without exceeding their annual VOC emission limit is 19,500 ton/year. Based on previous testing at T&D Wood, the average production rate is between 4 – 6 ton of pellets per hour. Conservatively assuming a lower production rate of 4 ton/hour, T&D Wood could potentially operate for 4,875 hours/year. At the proposed emission limit of 15 lb/hr, this results in annual emissions of 36.6 tpy of particulate matter.

The total annualized control cost to install and operate an RTO has been estimated to be \$649,444 per year, not including operation of necessary pretreatment equipment. RTO's are expected to control up to 95% of particulate matter. Resulting in an estimated control cost of approximately \$18,700 per ton of particulate matter removed. The addition of a pretreatment system, such as a wet scrubber, is expected to add additional costs and technical challenges.

Therefore, use of an RTO to control emissions of particulate matter from Stack #1 was determined not to be economically feasible.

(2) ESPs

ESPs are only able to collect particles and droplets that can be electrostatically charged. They provide little to no control of condensable particulate matter. Further, due to the sticky nature of the organic compounds released from the drying of pine, it is expected that the collection plates would quickly become fouled and blinded. Therefore, use of an ESP to control emissions of particulate matter from Stack #1 was determined not to be technically feasible.

(3) WESPs and Wet Scrubbers

Although WESPs and wet scrubbers can remove some filterable particulate matter, previous testing demonstrated that condensable particulate matter makes up 50% or more of the PM_{2.5} emitted by T&D Wood. Further on-site testing indicated the amount of condensable particulate matter that could be removed by water absorption at ambient temperatures was very low.

One of the simplest types of wet scrubbers is a venturi scrubber. EPA's Air Pollution Control Technology Fact Sheet for Venturi Scrubbers, EPA-452/F-03-017 estimates the annualized cost to operate a wet scrubber to be between \$5.70 and \$193.00 per scfm of exhaust flowrate (in 2002 dollars). Assuming the low end of that scale (\$15.00/scfm), converting to 2024 dollars (\$26.04/scfm), and using a typical flowrate for Stack #1 of 8,000 scfm, the cost to operate a venturi scrubber is estimated to be \$208,320/year. This does not include the cost to install, operate, and maintain a wastewater treatment system or to have the wastewater disposed of off-site. Assuming the cost to manage the wastewater disposal is equal to the cost to operate the scrubber results in a total annualized cost of control of \$416,640/year.

Approximately 50% of the PM_{2.5} is condensable particulate matter, which is unlikely to be controlled based on previous testing. Assuming 90% of the filterable particulate matter could be removed gives us 19.7 ton/year of PM_{2.5} potentially removed. This results in a cost of control of \$21,149/ton of PM_{2.5} removed.

WESPs are significantly more complex and costly to operate than a wet scrubber.

Therefore, use of either a wet scrubber or WESP to control emissions of particulate matter from Stack #1 was determined not to be economically feasible.

(4) Multicyclones

In the Department's experience, multicyclones work poorly in conditions where there is high moisture content and low stack gas temperature such as at T&D Wood. Water and organic compounds can condense inside the multicyclone causing particulate matter to stick to the inside and eventually clog the equipment. Therefore, use of a multicyclone to control emissions of particulate matter from Stack #1 was determined not to be technically feasible.

(5) Baghouses

Similar to multicyclones, baghouses do not perform well under conditions where water vapor and/or organic compounds can condense inside the equipment. The bags can quickly become blinded, dramatically increasing backpressure in the system and forcing a shutdown. Therefore, use of a baghouse to control emissions of particulate matter from Stack #1 was determined not to be technically feasible.

c. Ranking of Control Options

There are no control options that are both technically and economically feasible for control of emissions of particulate matter from Stack #1.

d. Determination

The Department finds that there are no available feasible control options for reducing emissions of particulate matter from Stack #1.

T&D Wood proposed emission limits of 15 lb/hr for PM and PM₁₀ and 10 lb/hr for PM_{2.5} as well as increasing the height of Stack #1 from 75 feet to 90 feet above ground level. Increasing the height of Stack #1 allows for better dispersion of the pollutants emitted. It also decreases the downwash effect of nearby buildings that causes the plume to be drawn down to ground level. As described in Section III of this air emission license, the proposed emission limits do not violate ambient air quality standards (AAQS) or increment standards provided the height of Stack #1 is increased to 90 feet above ground level.

Previous testing demonstrates that T&D Wood is able to meet the proposed emission limits provided the dryer inlet temperature is below 650 °F and the dryer throughput is less than the equivalent of 6.0 tons of finished pellets per hour. T&D Wood has not demonstrated the ability to consistently meet the proposed emission limits when operating above these levels.

The Department finds that emission limits of 15.0 lb/hr for PM₁₀ and 10.0 lb/hr for PM_{2.5} represent BACT from Stack #1 upon completion of extension of the stack to 90 feet above ground level. BACT for PM₁₀ and PM_{2.5} also includes continued compliance with the existing 650 °F dryer inlet temperature limit (on a 1-hour block average basis) and a new throughput limit of 6.0 tons of pellets per hour on a weekly average basis (Sunday to Saturday), exclusive of any pellets produced from material that was not processed in Dryer #1 (i.e., pre-dried material).

Emissions of PM from Stack #1 are limited by *General Process Source Particulate Emission Standard*, 06-096 C.M.R. ch. 105, see Section II(B)(3) of this air emission license. BACT for PM from Stack #1 is determined to be compliance with this rule.

During normal operation, visible emissions from Stack #1 and the bypass stack shall each not exceed 20% opacity on a six-minute block average basis.

During periods of Burner #1 startup, Burner #1 shutdown, or malfunction, visible emissions from Stack #1 or the bypass stack (as applicable) shall not exceed 40% opacity on a six-minute block average basis. This alternative visible emissions standard shall not be utilized while wood is being processed in Dryer #1. This alternative visible emissions standard shall not be utilized for more than two hours (20 consecutive six-minute block averages) per event. If T&D Wood wishes to take advantage of this alternative visible emissions standard during periods of Burner #1 startup, Burner #1 shutdown, or malfunction, the facility shall keep records of the date, time, and duration of each event. Otherwise, the normal operating visible emissions standard shall apply.

T&D Wood shall not cause visible emissions (not including water vapor), measured as any opacity, to occur at ground level over any land or surrounding any buildings not owned by T&D Wood. Opacity under this condition shall be determined pursuant to Environmental Protection Agency's (EPA's) 40 C.F.R. Part 60, Appendix A, Method 22 (EPA Test Method 22).

e. Compliance Demonstration

(1) Performance Testing

The particulate matter emission standards apply at all times. Compliance with the PM, PM₁₀, and PM_{2.5} limits and visible emission standards for Stack #1 shall be demonstrated through performance testing conducted within 60 days of the stack being raised to 90 feet above ground level or the issuance of this license amendment, whichever is later. T&D Wood shall conduct performance testing for PM, PM₁₀, PM_{2.5}, and visible emissions concurrent with any test for VOC (required or voluntary) that is conducted in accordance with the Department's Performance Testing Guidance. Pursuant to a previous BACT analysis for

VOC, T&D Wood must conduct performance testing for VOC annually with no more than 14 months between tests. This will result in performance testing for PM, PM₁₀, PM_{2.5}, and visible emissions to also occur annually. The initial performance test for particulate matter required by this license will satisfy the annual testing requirement provided testing for VOC is conducted concurrently.

Performance tests for PM shall be conducted in accordance with 40 C.F.R. Part 60, Appendix A, Method 5 (EPA Test Method 5) or other methods as approved by the Department. T&D Wood shall record the following data on the day of testing:

- (i) The amount (weight) and corresponding time of all green wood added to the infeed for Dryer #1 for at least six consecutive hours that encompass all test runs on the day of testing and determine the average hourly dryer feed rate for that day;
- (ii) The amount (weight) and corresponding time of all pellets produced for at least six consecutive hours that encompass all test runs on the day of testing and determine the average hourly pellet production for that day;
- (iii) Concurrent with (i) and (ii) above, the amount (weight), moisture content, and corresponding time of all pre-dried material added to the system after the dryer; and
- (iv) Concurrent with (i) and (ii) above, the moisture content of the wood entering and exiting Dryer #1. A minimum of one sample (each) per hour shall be collected.

The PM emission limit on the day of testing, as discussed in Section II(B)(4) of this air emission license, shall be based on the ODT/hour of wood processed determined by converting the tons of green wood fed into Dryer #1 to ODT/hr based on the moisture content of the wood entering and exiting the dryer.

The average hourly pellet production shall not be used to determine compliance with the PM emission limit. However, this data may be used to compare the dry mass of material entering and exiting the system to ensure no significant amount of material is gained or lost within the system (e.g., in the dry material storage bin) on the day of testing.

Performance tests for PM₁₀ and PM_{2.5} shall be conducted in accordance with EPA Test Method 5 to determine the filterable portions for these pollutants and in accordance with 40 C.F.R. Part 60, Appendix A, Method 202 (EPA Test Method 202) to determine the condensable portions for these pollutants, or other methods as approved by the Department. Emissions of filterable PM₁₀ shall be assumed to be 100% of filterable PM, and filterable PM_{2.5} shall be assumed to be 42% of filterable PM. The filterable and condensable portions shall be added together to determine compliance with the lb/hr emission limits

for each pollutant. Both the filterable and condensable portions, both separately and combined, shall be included in the stack test report.

Performance tests for visible emissions from Stack #1 shall be conducted in accordance with 40 C.F.R. Part 60, Appendix A, Method 9 (EPA Test Method 9) or other method as approved by the Department.

(2) Monitoring and Recordkeeping Requirements

Compliance with the dryer inlet temperature limit shall be based on continuous monitoring of the dryer inlet temperature and records of the calculated 1-hour block averages.

Compliance with the weekly average throughput limit of 6.0 tons of finished pellets per hour shall be demonstrated by calculations performed on a weekly basis in accordance with the following formula.

$$\text{Tons finished pellets per hour} = \frac{P_T - W_D [1 - (M - 0.05)]}{H}$$

Where:

- P_T = total tons of pellets produced for the week
 W_D = tons of pre-dried wood received from off-site and fed into the process downstream of Dryer #1 for the week
 M = the average moisture content for the week of the pre-dried wood fed into the process based on the average of the individual daily moisture measurements. This number is expressed as a decimal, e.g., 10% moisture equals 0.10.
 H = Hours of operation for Dryer #1 for the week

T&D Wood shall keep the following records to demonstrate compliance with the weekly average limit on tons of finished product per hour:

- (i) Tons of finished pellets produced on a daily and weekly basis;
- (ii) Tons of pre-dried wood received from off-site and fed into the process downstream of Dryer #1 on a daily and weekly basis;
- (iii) 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; and
- (iv) The hours Dryer #1 ran on a weekly basis including each date and time that drying began and ended. Dryer #1 shall not be considered “operating” if no material is being dried.

(3) Operations Plan

T&D Wood shall establish, maintain, and operate in accordance with a Department-approved Operations Plan. The Operations Plan shall be reviewed at least once per year and updated as needed. Any proposed updates must be submitted to the Department for approval prior to being implemented. The Operations Plan must contain the following information:

- (i) The facility's configuration, raw material specifications, monitored parameters, and parameter ranges indicative of normal operation;
- (ii) The facility's particulate control device inspection and maintenance program which shall include a record keeping system that is maintained on the same schedule as the inspections and maintenance occur. Such records shall include the findings of all inspections as well as any maintenance and repair actions conducted on any particulate control equipment (including control equipment for Burner #1/Dryer #1). The record must be maintained in a manner that is clearly understandable by Department staff and document that inspections and all necessary maintenance are being performed.; and
- (iii) The facility's malfunction and breakdown record keeping system. Records shall be maintained that include any and all malfunctions and breakdowns that affected or had the ability to affect emissions from material drying and pellet production operations as well as any and all maintenance and repair actions undertaken by T&D Wood in response to the malfunction and/or breakdown and required subsequent reporting to the Department.

3. 06-096 C.M.R. ch. 103

Emissions from Stack #1 are not subject to *Fuel Burning Equipment Particulate Emission Standard*, 06-096 C.M.R. ch. 103, because Burner #1 and Dryer #1 were constructed after December 22, 1982, and neither is considered a biomass boiler. Therefore, there are no applicable requirements contained in this rule.

4. 06-096 C.M.R. ch. 105

Emissions from Stack #1 are subject to *General Process Source Particulate Emission Standard*, 06-096 C.M.R. ch. 105, for emissions of PM. Similar to asphalt plants, this equipment is not regulated as fuel burning equipment due to its process nature¹. It is therefore considered a general process source. This rule limits emissions of PM on a sliding scale based on the process weight rate, i.e., the amount of material dried. Process weight rate is the average total weight of all materials introduced into the system excluding fuels, moisture, and combustion air². Based on previous test results, T&D

¹ See definition of "Fuel-burning equipment" in *Definitions Regulation*, 06-096 C.M.R. ch. 100, § 55.

² See definition of "Process weight rate" in 06-096 C.M.R. ch. 100, § 140.

Wood typically processes between 3 – 7 ODT/hr. The maximum process rate is unknown, but is assumed to be no more than 10 ODT/hr.

The corresponding emission limits for PM in 06-096 C.M.R. ch. 105 from Stack #1 for various process weight rates are given in the table below.

Process Weight Rate (ODT/hr)	PM Limit (lb/hr)
3.0	7.09
5.0	9.73
7.0	12.00
10.0	14.99

The PM emissions limit is defined by the following equation pursuant to 06-096 C.M.R. ch. 105, § 3.

$$E = 3.59 P^{0.62}$$

Where:

E = Emission limit in lb/hr

P = Process weight rate in ODT/hr

T&D Wood shall not exceed the PM emission limit established by 06-096 C.M.R. ch. 105. Compliance shall be demonstrated through performance testing as described in Section II(B)(2)(e) of this air emission license.

The emission limits in 06-096 C.M.R. ch. 105 are based on a 2-hour sampling period. The performance testing described in this license is conducted pursuant to EPA Test Method 5, which uses the average of three 1-hour samples. Conducting testing in accordance with EPA Test Method 5 is determined to be most stringent and more appropriate. Therefore, testing requirements have been streamlined to EPA Test Method 5 and only those requirements are included in the Order section of this license.

C. Visible Emissions

In 2023, the Department completed rulemaking on revisions to *Visible Emissions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 101. The revised rule went into effect on January 1, 2024. The following section identifies applicable visible emissions requirements and addresses necessary revisions to applicable requirements due to this rulemaking.

1. Burner #1/Dryer #1

a. 06-096 C.M.R. ch. 101

Burner #1 is subject to the following visible emissions standards pursuant to 06-096 C.M.R. ch. 101, § 4(A)(5)(a):

Visible emissions from Burner #1 shall not exceed 30% opacity on a six-minute block average basis, except for periods of startup, shutdown, or malfunction during which time T&D Wood must meet the normal operating visible emissions standard or the following alternative visible emissions standard.

During periods of startup, shutdown, or malfunction, visible emissions shall not exceed 40% opacity on a six-minute block average basis. This alternative visible emissions standard shall not be utilized for more than two hours (20 consecutive six-minute block averages) per event. T&D Wood shall keep records of the date, time, and duration of each event.

Dryer #1 is subject to the following visible emissions standard pursuant to 06-096 C.M.R. ch. 101, § 4(B)(4):

Visible emissions from Dryer #1 shall not exceed 20% opacity on a six-minute block average basis.

b. 06-096 C.M.R. ch. 115, BACT

Burner #1 and Dryer #1 are subject to the following visible emissions standards pursuant to 06-096 C.M.R. ch. 115, BACT:

During normal operation, visible emissions from Stack #1 and the bypass stack shall each not exceed 20% opacity on a six-minute block average basis.

During periods of Burner #1 startup, Burner #1 shutdown, or malfunction, visible emissions from Stack #1 or the bypass stack (as applicable) shall not exceed 40% opacity on a six-minute block average basis. This alternative visible emissions standard shall not be utilized while wood is being processed in Dryer #1. This alternative visible emissions standard shall not be utilized for more than two hours (20 consecutive six-minute block averages) per event. If T&D Wood wishes to take advantage of this alternative visible emissions standard during periods of Burner #1 startup, Burner #1 shutdown, or malfunction, the facility shall keep records of the date, time, and duration of each event. Otherwise, the normal operating visible emissions standard shall apply.

T&D Wood shall not cause visible emissions (not including water vapor), measured as any opacity, to occur at ground level over any land or surrounding any buildings not owned by T&D Wood. Opacity under this condition shall be determined pursuant to EPA Test Method 22.

c. Streamlining

The Department has determined that the BACT visible emissions standards are equivalent to or more stringent than the applicable visible emissions standards in 06-096 C.M.R. ch. 101. Therefore, the visible emissions limits have been streamlined to the more stringent BACT limits, and only these more stringent limits shall be included in the Order section of air emission license.

2. Wood Handling and General Process Sources

a. 06-096 C.M.R. ch. 101

General process sources (including the electric grinder, conveyor belts, material handling cyclones, building vents, and storage bins or hoppers) are subject to the following visible emissions standard pursuant to 06-096 C.M.R. ch. 101, § 4(B)(4):

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis.

b. 06-096 C.M.R. ch. 115, BACT

General process sources are subject to the following visible emissions standards pursuant to 06-096 C.M.R. ch. 115, BACT:

Visible emissions from any general process source (including the electric grinder, conveyor belts, material handling cyclones, building vents, and storage bins or hoppers) shall not exceed 20% opacity on a six-minute block average basis. T&D Wood shall take corrective action if visible emissions from any general process source exceed 10% opacity on a six-minute block average basis. T&D Wood shall keep records of any corrective actions taken and maintenance performed on the material handling cyclone and cartridge filter.

T&D Wood shall not cause visible emissions (not including water vapor), measured as any opacity, to occur at ground level over any land or surrounding any buildings not owned by T&D Wood. Opacity under this condition shall be determined pursuant to EPA Test Method 22.

c. Streamlining

The Department has determined that the BACT visible emissions standards are more stringent than the applicable visible emissions standard in 06-096 C.M.R. ch. 101. Therefore, the visible emissions limits have been streamlined to the more stringent BACT limits, and only these more stringent limits shall be included in the Order section of air emission license.

3. Fugitive Emissions

On January 1, 2024, the applicable visible emissions standard for Fugitive Emissions contained in 06-096 C.M.R. ch. 101 changed to the following:

T&D Wood shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

T&D Wood shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to EPA Test Method 22.

[06-096 C.M.R. ch. 101, § 4(C)]

D. 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:

- Unlimited use of Burner #1; and
- A facility-wide VOC limit of 49.9 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
 (used to calculate the annual license fee)

	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC
Burner #1 & Dryer #1	65.7	65.7	43.8	3.0	19.1	34.2	–
Facility-wide Limit	–	–	–	–	–	–	49.9
Total TPY	65.7	65.7	43.8	3.0	19.1	34.2	49.9

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

A. Overview

A refined modeling analysis was performed to show that emissions from T&D Wood will not cause or contribute to violations of National Ambient Air Quality Standards (NAAQS) for SO₂, PM₁₀, PM_{2.5}, NO₂, or CO or to Class II increments for SO₂, PM₁₀, PM_{2.5}, or NO₂.

Because T&D Wood is a minor source, it has been determined by the Department that an assessment of Class I Air Quality Related Values (AQRVs) is not required.

B. Model Inputs

The AERMOD refined dispersion model was used to address NAAQS and increment impacts.

All modeling was performed in accordance with all applicable requirements of the Department and the United States Environmental Protection Agency (EPA).

A valid five-year hourly off-site meteorological database was used in the AERMOD refined modeling analysis. The following parameters and their associated heights were collected at the Sky Haven Airport monitoring site, located in Rochester NH, during the five-year period 2012-2016:

TABLE III-1 : Meteorological Parameters and Collection Heights

Parameter	Sensor Height
Wind Speed	7.62 meters
Wind Direction	7.62 meters
Temperature	2 meters

The Sky Haven Airport Automated Surface Observing System (ASOS) station was selected as the primary meteorological surface data site due to:

- close proximity to T&D Wood (25 kilometers);
- surface data is meteorologically representative of application site;
- ASOS station and application site share similar characteristics;
- instrumentation and exposure of the meteorological monitoring site; and
- completeness of data set which meets all minimum data recovery requirements.

When possible, missing surface meteorological data collected at the Sky Haven Airport site were interpolated or coded as missing as appropriate, per EPA guidance.

Surface meteorological data was combined with concurrent hourly cloud cover and upper-air data obtained from the Gray National Weather Service (NWS). Missing cloud cover and/or upper-air data values were interpolated or coded as missing pursuant to EPA guidance.

All necessary representative micrometeorological surface variables for inclusion into AERMET (surface roughness, Bowen ratio and albedo) were calculated using the AERSURFACE utility program and from procedures recommended by EPA.

Point-source parameters, used in the modeling for T&D Wood are listed in Table III-2.

TABLE III-2 : T&D Wood Point Source Stack Parameters

Stack	Stack Base Elevation (m)	Stack Height (m)	GEP Stack Height (m)	Stack Diameter (m)	UTM Easting NAD83 (m)	UTM Northing NAD83 (m)
CURRENT/PROPOSED						
• Stack #1 (Dryer Stack)	71.02	27.43	19.42	1.01	363,564	4,809,146
2012 BASELINE (PM_{2.5} INCREMENT)						
• T&D Wood did not exist during the 2012 baseline year, no PM _{2.5} credits to be taken.						
1987 BASELINE (NO₂ INCREMENT)						
• T&D Wood did not exist during the 1987 baseline year, no NO ₂ credits to be taken.						
1977 BASELINE (SO₂/PM₁₀ INCREMENT)						
• T&D Wood did not exist during the 1977 baseline year, no SO ₂ /PM ₁₀ credits to be taken.						

Emission parameters for T&D Wood for NAAQS and Class II increment modeling are listed in Table III-3. Emission parameters are based on the maximum license allowed operating configuration.

For the purpose of determining maximum predicted impacts, the following assumptions were used:

- all NO_x emissions were conservatively assumed to convert to NO₂ (USEPA Tier I Method);
- all particulate emissions were conservatively assumed to convert to PM₁₀; and
- all PM_{2.5} emissions were explicitly modeled as PM_{2.5}.

TABLE III-3 : Stack Emission Parameters

Stack	Averaging Periods	SO ₂ (g/s)	PM ₁₀ (g/s)	PM _{2.5} (g/s)	NO _x (g/s)	CO (g/s)	Stack Temp (K)	Stack Velocity (m/s)
MAXIMUM LICENSE ALLOWED								
• Stack #1 (Dryer Stack)	All	0.008	1.26	1.89	0.548	0.983	383.15	9.82
2012 BASELINE (PM_{2.5} INCREMENT)								
• T&D Wood did not exist during the 2012 baseline year, no PM _{2.5} credits to be taken.								
1987 BASELINE (NO₂ INCREMENT)								
• T&D Wood did not exist during the 1987 baseline year, no NO ₂ credits to be taken.								
1977 BASELINE (SO₂/PM₁₀ INCREMENT)								
• T&D Wood did not exist during the 1977 baseline year, no SO ₂ /PM ₁₀ credits to be taken.								

C. Single Source Modeling Impacts

The AERMOD model results for T&D Wood alone are shown in Table III-4. Maximum predicted impacts that exceed their respective significance level are indicated in boldface type. No additional refined modeling was required for pollutants that did not exceed their respective significance levels.

TABLE III-4 : Maximum AERMOD Impacts from T&D Wood Alone

Pollutant	Averaging Period	Max Impact (µg/m ³)	Receptor UTM E (m)	Receptor UTM N (m)	Receptor Elevation (m)	Class II Significance Level (µg/m ³)
SO ₂	1-hour	1.29	363,550	4,809,300	72.80	7.9
	3-hour	1.24	363,550	4,809,300	72.80	25
PM ₁₀	24-hour	13.17	363,500	4,808,850	70.00	5
PM _{2.5}	24-hour	4.03	363,550	4,809,350	71.90	1.2
	Annual	0.78	363,850	4,808,950	70.30	0.2
NO ₂	1-hour	7.67	363,550	4,809,300	73.90	7.5
	Annual	0.36	363,500	4,809,350	71.90	1
CO	1-hour	16.43	363,550	4,809,300	73.90	2,000
	8-hour	11.52	363,550	4,809,350	74.80	500

D. Combined Source Modeling Impacts

As indicated in boldface type in Table III-4, other sources not explicitly included in the modeling analysis must be accounted for by using representative background concentrations for the area.

Background concentrations, listed in Table III-5, are derived from representative rural background data for use in the Southern Maine region.

TABLE III-5 : Background Concentrations

Pollutant	Averaging Period	Background Concentration ($\mu\text{g}/\text{m}^3$)	Monitoring Site
SO ₂	1-hour	5	Presque Isle
	3-hour	4	
PM ₁₀	24-hour	37	Augusta
PM _{2.5}	24-hour	12	Presque Isle
	Annual	4	
NO ₂	1-hour	40	Presque Isle
	Annual	4	
CO	1-hour	1102	Presque Isle
	8-hour	789	

The Department examined other nearby sources to determine if any impacts would be significant in or near the T&D Wood significant impact area. Due to the location of T&D Wood, extent of the predicted significant impact area, and other nearby source's emissions, the Department has determined that no other sources would be included in combined-source refined modeling.

The maximum AERMOD modeled impacts, which were explicitly normalized to the form of their respective NAAQS, were added with conservative rural background concentrations to demonstrate compliance with NAAQS, as shown in Table III-6.

Because all pollutant/averaging period impacts using this method meet NAAQS, no further NAAQS modeling analyses need to be performed.

TABLE III-6 : Maximum Combined Source Impacts ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Period	Max Impact ($\mu\text{g}/\text{m}^3$)	Receptor UTM E (m)	Receptor UTM N (m)	Receptor Elevation (m)	Back-Ground ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hour	1.29	363,550	4,809,300	72.80	5	6.29	196
	3-hour	1.24	363,550	4,809,300	72.80	4	5.24	1,300
PM ₁₀	24-hour	13.17	363,500	4,808,850	70.00	37	50.17	150
PM _{2.5}	24-hour	4.03	363,550	4,809,350	71.90	12	16.03	35
	Annual	0.78	363,850	4,808,950	70.30	4	4.78	12
NO ₂	1-hour	7.67	363,550	4,809,300	73.90	40	47.67	188
	Annual	0.36	363,500	4,809,350	71.90	4	4.36	100
CO	1-hour	16.43	363,550	4,809,300	73.90	1102	1118.43	40,000
	8-hour	11.52	363,550	4,809,350	74.80	789	800.52	10,000

E. Class II Increment

The AERMOD model was used to predict maximum Class II increment impacts.

Results of the Class II increment analysis are shown in Tables III-7. All modeled maximum increment impacts were below all increment standards. Because all predicted increment impacts meet increment standards, no additional Class II SO₂, PM₁₀, PM_{2.5} and NO₂ increment modeling needed to be performed.

TABLE III-7 : Class II Increment Consumption

Pollutant	Averaging Period	Max Impact ($\mu\text{g}/\text{m}^3$)	Receptor UTM E (m)	Receptor UTM N (m)	Receptor Elevation (m)	Class II Increment ($\mu\text{g}/\text{m}^3$)
SO ₂	3-hour	1.43	363,550	4,809,300	72.80	512
	24-hour	1.24	363,550	4,808,300	72.80	91
	Annual	0.06	363,850	4,809,350	70.30	20
PM ₁₀	24-hour	13.17	363,500	4,808,850	70.00	30
	Annual	1.23	363,500	4,809,350	71.90	17
PM _{2.5}	24-hour	8.78	363,500	4,808,850	70.00	9
	Annual	0.82	363,500	4,809,350	71.90	4
NO ₂	Annual	0.36	363,850	4,809,950	70.30	25

F. Summary

In summary, it has been demonstrated that T&D Wood in its proposed/updated configuration will not cause or contribute to a violation of any SO₂, PM₁₀, PM_{2.5}, NO₂, or CO or to Class II increments for SO₂, PM₁₀, PM_{2.5}, or NO₂.

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-D-A subject to the conditions found in Air Emission License A-1129-71-A-N, in amendments A-1129-71-B-A, A-1129-71-C-A, and A-1129-71-E-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 shall replace Conditions (17)(B) and (F) of Air Emission License A-1129-71-C-A upon completion of the work necessary to increase the height of Stack #1 to 90 feet above ground level.

(17) Burner #1 & Dryer #1

B. Emission Limits

1. Emissions from Stack #1 shall not exceed the following:
[06-096 C.M.R. ch. 115, BACT (A-1129-71-A-N, 4/24/2018)]

Emission Unit	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)
Burner #1 & Dryer #1 (combined)	0.68	4.35	7.80

2. Emissions from Stack #1 shall not exceed the following:
[06-096 C.M.R. ch. 115, BACT]

Emission Unit	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)
Burner #1 & Dryer #1 (combined)	15.00	10.00

3. T&D Wood shall not exceed the following emission limit for PM:

$$E = 3.59 P^{0.62}$$

Where:

E = Emission limit in lb/hr

P = Process weight rate in ODT/hr

[06-096 C.M.R. ch. 105, § 3 and 06-096 C.M.R. ch. 115, BACT]

- F. No later than 60 days from the issued date of this license amendment, the exhaust from Stack #1 shall be a minimum of 90 feet above ground level. T&D Wood shall notify the Department in writing of completion of the stack extension within 14 days of occurrence. [06-096 C.M.R. ch. 115, § 7]

The following shall replace Condition (17)(C) of Air Emission License A-1129-71-C-A.

(17) Burner #1 & Dryer #1

C. Visible Emissions

1. During normal operation, visible emissions from Stack #1 and the bypass stack shall each not exceed 20% opacity on a six-minute block average basis.
2. During periods of Burner #1 startup, Burner #1 shutdown, or malfunction, visible emissions from Stack #1 or the bypass stack (as applicable) shall not exceed 40% opacity on a six-minute block average basis. This alternative visible emissions standard shall not be utilized while wood is being processed in Dryer #1. This alternative visible emissions standard shall not be utilized for more than two hours (20 consecutive six-minute block averages) per event. If T&D Wood wishes to take advantage of this alternative visible emissions standard during periods of Burner #1 startup, Burner #1 shutdown, or malfunction, the facility shall keep records of the date, time, and duration of each event. Otherwise, the normal operating visible emissions standard shall apply.

3. T&D Wood shall not cause visible emissions (not including water vapor), measured as any opacity, to occur at ground level over any land or surrounding any buildings not owned by T&D Wood. Opacity under this condition shall be determined pursuant to EPA Test Method 22.

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

The following shall replace Condition (17)(D) of Air Emission License A-1129-71-C-A.
(Reaffirming as BACT as of this license.)

(17) Burner #1 & Dryer #1

- D. The inlet temperature to Dryer #1 shall not exceed 650 °F on a 1-hr average basis. Compliance shall be demonstrated by the periodic monitoring and recordkeeping required by this license. [06-096 C.M.R. ch. 115, BACT]

The following shall replace Condition (17)(H) of Air Emission License A-1129-71-C-A.

(17) Burner #1 & Dryer #1

- H. T&D Wood shall establish, maintain, and operate in accordance with a Department-approved Operations Plan. The Operations Plan shall be reviewed at least once per year and updated as needed. Any proposed updates must be submitted to the Department for approval prior to being implemented. The Operations Plan must contain the following information:
 1. The facility's configuration, raw material specifications, monitored parameters, and parameter ranges indicative of normal operation;
 2. The facility's particulate control device inspection and maintenance program which shall include a record keeping system that is maintained on the same schedule as the inspections and maintenance occur. Such records shall include the findings of all inspections as well as any maintenance and repair actions conducted on any particulate control equipment (including control equipment for Burner #1/Dryer #1). The record must be maintained in a manner that is clearly understandable by Department staff and document that inspections and all necessary maintenance are being performed.; and
 3. The facility's malfunction and breakdown record keeping system. Records shall be maintained that include any and all malfunctions and breakdowns that affected or had the ability to affect emissions from material drying and pellet production operations as well as any and all maintenance and repair actions undertaken by T&D Wood in response to the malfunction and/or breakdown and required subsequent reporting to the Department.

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

The following Condition (17)(I) is a new Condition.

(17) **Burner #1 & Dryer #1**

I. Throughput Limit

1. T&D Wood shall not exceed a throughput limit of 6.0 tons of finished pellets per hour on a weekly average basis (Sunday to Saturday).
2. Compliance with the weekly average throughput limit of 6.0 tons of finished pellets per hour shall be demonstrated by calculations performed on a weekly basis in accordance with the following formula:

$$\text{Tons finished pellets per hour} = \frac{P_T - W_D [1 - (M - 0.05)]}{H}$$

Where:

- P_T = total tons of pellets produced for the week
 W_D = tons of pre-dried wood received from off-site and fed into the process downstream of Dryer #1 for the week
 M = the average moisture content for the week of the pre-dried wood fed into the process based on the average of the individual daily moisture measurements. This number is expressed as a decimal, e.g., 10% moisture equals 0.10.
 H = Hours of operation for Dryer #1 for the week

3. Calculation of weekly average throughput shall be completed within 10 days of the end of the week, e.g., if a week ends on Saturday the 1st, calculations shall be available not later than COB on Monday the 10th. T&D Wood shall record these results and upon request, make them available to the Department within seven calendar days.

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

The following shall replace Condition (18)(B) of Air Emission License A-1129-71-C-A.

(18) **Performance Testing**

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

- B. T&D Wood shall conduct performance testing for PM, PM₁₀, PM_{2.5}, and visible emissions within 60 days of the stack being raised to 90 feet above ground level or the issuance of this license amendment, whichever is later. T&D shall also conduct performance testing for PM, PM₁₀, PM_{2.5}, and visible emissions concurrent with any test for VOC (required or voluntary) that is conducted in accordance with the

Department's Performance Testing Guidance. The initial performance test for particulate matter required by this license will satisfy the annual testing requirement provided testing for VOC is conducted concurrently.

The following shall replace Conditions (18)(I) and (J) of Air Emission License A-1129-71-C-A upon completion of the work necessary to increase the stack height to 90 feet above ground level.

(18) Performance Testing

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

- I. T&D Wood shall record the following data on the day of testing and include this data in the performance test report:
 1. The amount (weight) and corresponding time of all green wood added to the infeed for Dryer #1 for at least six consecutive hours that encompass all test runs on the day of testing and determine the average hourly dryer feed rate for that day;
 2. The amount (weight) and corresponding time of all pellets produced for at least six consecutive hours that encompass all test runs on the day of testing and determine the average hourly pellet production for that day;
 3. Concurrent with (1) and (2) above, the amount (weight), moisture content, and corresponding time of all pre-dried material added to the system after the dryer; and
 4. Concurrent with (1) and (2) above, the moisture content of the wood entering and exiting Dryer #1. A minimum of one sample (each) per hour shall be collected.
- J. The PM emission limit on the day of testing, as specified in Condition (17)(B)(2), shall be based on the ODT/hour of wood processed determined by converting the tons of green wood fed into Dryer #1 to ODT/hr based on the moisture content of the wood entering and exiting the dryer.

The following shall replace Conditions (20)(D), (E), and (F) of Air Emission License A-1129-71-C-A.

(20) Wood Handling and Pellet Processing Operations

- D. Visible emissions from any general process source (including the electric grinder, conveyor belts, material handling cyclones, building vents, and storage bins or hoppers) shall not exceed 20% opacity on a six-minute block average basis. T&D Wood shall take corrective action if visible emissions from any general process source exceed 10% opacity on a six-minute block average basis. T&D Wood shall keep records of any corrective actions taken and maintenance performed on the material handling cyclone and cartridge filter. [06-096 C.M.R. ch. 115, BACT]

E. Fugitive Emissions

1. T&D Wood shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.
2. T&D Wood shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

[06-096 C.M.R. ch. 101, § 4(C)]

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

(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).

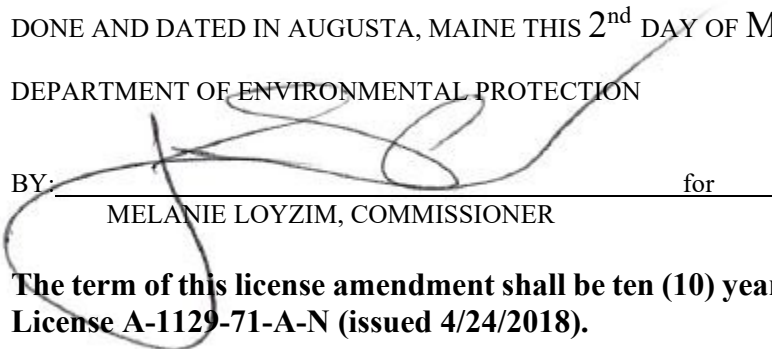
T&D Wood shall monitor, record, and keep the following records, as applicable:

- 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, weekly, monthly, and 12-month rolling total basis; [06-096 C.M.R. ch. 115, BACT and 06-096 C.M.R. ch. 115, BACT (A-1129-71-E-M, 5/1/2024)]
- 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 (A-1129-71-E-M, 5/1/2024)]

- 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, weekly, monthly, and 12-month rolling total basis. [06-096 C.M.R. ch. 115, BACT and 06-096 C.M.R. ch. 115, BACT (A-1129-71-E-M, 5/1/2024)] and
- H. The moisture content of the pre-dried wood fed into the process measured on a daily basis and recorded on daily basis, weekly average, and monthly average. [06-096 C.M.R. ch. 115, BACT and 06-096 C.M.R. ch. 115, BACT (A-1129-71-E-M, 5/1/2024)]

DONE AND DATED IN AUGUSTA, MAINE THIS 2nd 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: 12/14/2023

Date of application acceptance: 12/20/2023

Date filed with the Board of Environmental Protection:

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

FILED
MAY 02, 2024
State of Maine
Board of Environmental Protection