



DEPARTMENT ORDER

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

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

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 on May 20, 2021 (A-1129-71-B-A).

In a letter dated August 4, 2022, PDI requested that their name be removed from the license since they no longer have title, right, or interest in the facility and play no part in day-to-day operations. Therefore, as of the date of this license amendment T&D Wood shall be the sole entity responsible for compliance with the facility's air emission license. This change does not absolve PDI of any potential responsibility for non-compliance which occurred for the period of time that they were a co-licensee.

T&D Wood has requested an amendment to their license in order to:

1. Revise the Best Available Control Technology (BACT) analysis for emissions of volatile organic compounds (VOC) from Dryer #1;
2. Increase the time the bypass stack may be used during startup;
3. Clarify the visible emissions limits for Stack #1 and the bypass stack;
4. Remove the previously licensed Pre-Grinder #1; and
5. Clarify the particulate matter controls used on the dry storage silo and the pelletizer building.

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

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	Finished Material Process Rate	Pollution Control Equipment	Stack #
Dryer #1	5 ODT/hr ^b	None	1
Dry Material Silo	N/A	Cyclone	N/A

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

Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (HP)	Fuel Type, % sulfur	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Pre-Grinder #1*	3.7	330	Distillate Fuel, 0.0015%	27	1999	2020

*Equipment has been removed from the site.

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.

Burner #1 shutdown means a period of time beginning when fuel stops being introduced into the combustion chamber and ending when the inlet temperature to Dryer #1 drops below 200 °F.

Burner #1 startup means a period of time beginning when flame is first introduced into the combustion chamber and ending when emissions are exhausted through Stack #1.

Distillate Fuel means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Normal operation means any operating time other than periods of startup, shutdown, or malfunction.

Records or Logs mean either hardcopy or electronic records.

Portable or Non-Road Engine means an internal combustion engine which is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. This definition does NOT include engines which remain or will remain at a location (excluding storage locations) for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

An engine is not a non-road (portable) engine if it remains or will remain at a location for more than 12 consecutive months or for a shorter period of time if sited at a seasonal source. A seasonal source is a source that remains in a single location for two years or more and which operates for fewer than 12 months in a calendar year. If an engine operates at a seasonal source for one entire season, the engine does not meet the criteria of a non-road (portable) engine and is subject to applicable stationary engine requirements.

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 Emission” levels as defined in the Department’s *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emission Levels
PM	34.1	40.3	+6.2	100
PM ₁₀	34.1	40.3	+6.2	100
PM _{2.5}	16.1	19.1	+3.0	100
SO ₂	2.5	3.0	+0.5	100
NO _x	19.1	19.1	–	100
CO	29.6	34.2	+4.6	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 VOC, because T&D Wood 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.

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 nominal hourly throughput rate of approximately 5 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. Emissions of VOC

a. BACT

As part of their application, T&D Wood included an updated BACT analysis for control of VOC from Dryer #1. Regenerative Thermal Oxidizers (RTOs) are commonly used to control emissions of VOC from similar types of dryers at larger wood pellet production facilities and are therefore technically feasible for this facility. However, RTOs have high capital, maintenance, and operational costs considering the size of the equipment and level of VOC emissions in question. The cost of installing, operating, and maintaining an RTO was determined to be approximately \$18,000 per ton of VOC controlled. Additionally, use of an RTO would require pretreatment of the exhaust stream to remove particulate matter that could foul or degrade the efficiency of the RTO catalyst. Pretreatment devices, such as multicyclones or wet scrubbers, would involve additional cost and technical

challenges. Therefore, use of an RTO for control of VOC emissions from Dryer #1 was determined not to be economically feasible at this time.

T&D Wood continues to investigate options for control devices, including wet scrubbers, to reduce emissions of VOC. However, thus far they have been unable to identify a control option that is both technically and economically feasible.

Based on recent testing conducted at the facility, uncontrolled emissions of VOC from T&D Wood have the potential to exceed 50 tpy. In order to continue to be considered a synthetic minor source, T&D Wood proposes to demonstrate on-going compliance with an annual facility-wide VOC emissions limit of less than 50 tpy. Therefore, the Department has determined that BACT for emissions of VOC from Burner #1 and Dryer #1 is inclusion of a facility-wide VOC emission limit of 49.9 tpy on a 12-month rolling total basis. Compliance with this annual emission limit shall be demonstrated as indicated in the following section.

b. Compliance Demonstration

T&D Wood has conducted multiple rounds of performance testing on the combined emissions from Burner #1 and Dryer #1. The results of all tests conducted since September 16, 2021, inclusive, indicate an average emission rate of 5.27 pounds of VOC per ton of finished pellets produced (lb/ton of pellets).

Compliance with the annual VOC limit of 49.9 tpy shall be demonstrated 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 based on performance testing results and as approved by the Department. As of the issuance of this license amendment, the emission factor to be used is 5.27 lb/ton of pellets.

T&D Wood shall calculate VOC emissions on a calendar month basis and 12-month rolling total basis. The first calendar month using this methodology shall begin the month of this license amendment's issuance, i.e., the 12-month rolling total shall not go back further than the month of this license amendment's issuance. Calculation of VOC emissions for each calendar month and 12-month rolling total basis shall be completed no later than the 15th 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. T&D Wood shall report the facility's 12-month rolling total VOC emissions to the Department semiannually by January 31st and July 31st of each year.

T&D Wood shall conduct performance testing for VOC under normal representative operating conditions at least once annually, beginning in the calendar year of this license amendment issuance, with no more than 14 months between

tests. Upon written approval by the Department, the results of such testing shall be averaged with any other previously approved test results from September 16, 2021, and onward to establish a new emission factor (lb/ton of pellets) to be used in the calculation of calendar month and 12-month rolling total VOC emissions, beginning with the calendar month of the test.

Additionally, T&D Wood has requested the ability to continue to refine the emission factor used (lb/ton of pellets) by voluntarily conducting additional performance tests. The Department agrees to this approach provided any additional tests are conducted in accordance with the Department's Performance Testing Guidance, including submission of a performance test protocol, the Department's approval of the performance test protocol prior to testing, the opportunity for Department staff to observe the test, and submission of a test report for the Department's approval.

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

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 future months, i.e., calculation of VOC emissions for previous months must use the previous emission factor in use at the time.

c. Removal of Previous Process Limits

As described above, T&D Wood shall demonstrate compliance with the annual VOC emission limit through recordkeeping of pellet production and calculated VOC emissions based on a site-specific emission factor. Therefore, the previously licensed process limits of 7,400 operating hours per year and 4.9 oven-dried ton per hour are considered obsolete and are removed upon issuance of this license amendment. The facility's annual potential to emit emissions for other affected pollutants, including PM, PM₁₀, PM_{2.5}, SO₂, and CO have been adjusted accordingly.

2. Stack Testing for PM, PM₁₀, and PM_{2.5}

T&D Wood's current license requires regular performance testing for particulate matter, VOC, and visible emissions. As described earlier, performance testing for VOC shall be performed at least once annually. 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.

3. Bypass Stack Use

During startup, T&D Wood exhausts Burner #1 through a short bypass stack to avoid overheating and damaging the dryer from the venting of hot exhaust gases through it when no wood is being dried. T&D Wood's previous license limited use of the bypass stack to periods of startup, shutdown, and malfunction with no more than one hour per event. This one-hour startup limit forces Burner #1 to heat up too quickly, potentially damaging refractory. Therefore, T&D Wood has requested extending the time the bypass stack may be used during startup to no more than three hours per startup event.

The Department agrees that additional time is appropriate to heat up Burner #1 during startup. Therefore, during periods of shutdown and malfunction, the bypass stack may be used for Burner #1 for no more than one hour per event. During periods of startup, the bypass stack may be used for Burner #1 for no more than three hours per event. Compliance shall be demonstrated by recordkeeping of the date, time, and duration of all startups, shutdowns, and malfunctions of Burner #1 where the bypass stack is used.

4. Visible Emissions Limits

In Air Emission License A-1129-71-B-A (5/20/2021), the visible emission limits were update based on changes to *Visible Emissions Regulation*, 06-096 C.M.R. ch. 101, which took effect after issuance of the original license. This update inadvertently made the license silent regarding the visible emission standard for the bypass stack. Therefore, visible emission standards for Burner #1 and Dryer #1 are revised to the following:

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 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.

C. Pre-Grinder #1

Pre-Grinder #1 was added in Air Emission License A-1129-71-B-A (5/20/2021). This equipment has since been replaced by an electric-driven grinder. Two infeed bins meter green material onto a belt and into the electric grinder which shreds the wood to 3/8" minus size. It is then conveyed via screw and belt to the dryer infeed bin.

The requirements for Pre-Grinder #1 are being removed from the license. T&D Wood remains subject to visible emission standards for general process sources which includes

the electric grinder and associated material handling equipment. As previously specified in Air Emission License A-1129-71-A-N (4/24/2018), all exterior conveyors shall be equipped and operated with covers.

D. Material Handling Particulate Matter Controls

1. Dry Storage Bin

In Air Emission License A-1129-71-A-N (4/24/2018), BACT for control of particulate matter emissions from storage silos was determined to be the use of fabric filters on silo vents. Currently, the only storage silo in use which vents outside is the Dry Storage Bin. The Dry Storage Bin is fed by a pneumatic system with a cyclone which separates the dried sawdust from the air stream. The dry material is dropped into an airlock which then dumps the material into the Dry Storage Bin. A cartridge filter (a type of fabric filter) draws from the cyclone air stream exhaust to collect dust.

T&D Wood has requested the requirement to operate fabric filters on the Dry Storage Bin be removed since there are no defined vents on the Dry Storage Bin itself. However, the cartridge filter is a type of fabric filter that operates on the storage bin system. Therefore, BACT for emissions of particulate matter from the Dry Storage Bin is determined to be operation and maintenance of the material handling cyclone and associated cartridge filter and the following visible emission limit applicable to all general process sources at the facility.

Visible emissions from any general process source 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.

The Department has determined that the proposed BACT visible emission limit for general process sources is more stringent than the applicable limit in 06-096 C.M.R. ch. 101. Therefore, the visible emission limit for general process sources has been streamlined to the more stringent BACT limit, and only this more stringent limit shall be included in the air emission license.

2. Pelletizer Building Particulate Matter Emissions

In the application process for Air Emission License A-1129-71-A-N (4/24/2018), the applicants described a ventilation system that would pick up air from various points within the pelletizer building and route them to a fabric filter baghouse for control of particulate matter before venting outside. This system was never installed, and T&D Wood has requested that associated requirements be removed from the license.

However, based on observations from the most recent compliance inspection, T&D Wood has installed other similar systems which exhaust outside. The first system draws air and wood dust from the pellet cooler, pellet screw auger, and bagger hopper into a small-diameter cyclone. The top of this cyclone is ducted to a fan which vents to atmosphere. The second system collects dust-laden air from the pellet screening system and vents to a second small-diameter cyclone. The top of this cyclone is ducted to the cartridge filter used for the Dry Storage Bin.

Therefore, BACT for emissions of particulate matter from the Pelletizer Building is determined to be the following visible emissions limit applicable to all general process sources at the facility.

Visible emissions from any general process source 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.

E. 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	40.3	40.3	19.1	3.0	19.1	34.2	–
Facility-wide Limit	–	–	–	–	–	–	49.9
Total TPY	40.3	40.3	19.1	3.0	19.1	34.2	49.9

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

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 the expected construction and operation of the proposed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.) deviates from what was included in the application, the Department may require 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-C-A subject to the conditions found in Air Emission License A-1129-71-A-N, in amendment A-1129-71-B-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.

To avoid confusion, ALL Standard and Specific Conditions of Air Emission Licenses A-1129-71-A-N and A-1129-71-B-A are deleted and replaced with the following:

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 C.M.R. ch. 115]

- (11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:
- A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. Pursuant to any other requirement of this license to perform stack testing.
 - B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. Submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 C.M.R. ch. 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. Within thirty (30) days following receipt of the written test report by the Department, or another alternative timeframe approved by the Department, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and
 - B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
[06-096 C.M.R. ch. 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or license requirement. [06-096 C.M.R. ch. 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 C.M.R. ch. 115]
- (16) The licensee shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

- (17) **Burner #1 & Dryer #1**
[06-096 C.M.R. ch. 115, BACT]

A. Burner #1 is licensed to fire biomass.

B. Emissions from Stack #1 shall not exceed the following

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)
Burner #1 & Dryer #1 (combined)	9.20	9.20	4.35	0.68	4.35	7.80

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 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 emission 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.
 - 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.
 - E. Burner #1 and Dryer #1 shall exit through a cyclone and then Stack #1 except for periods of Burner #1 startup, Burner #1 shutdown, or malfunction.
 - F. The exhaust from Stack #1 shall be a minimum of 75 feet above ground level.
 - G. During periods of startup of Burner #1, the bypass stack may be used for no more than three hours per event. During periods of shutdown or malfunction, the bypass stack may be used for no more than one hour per event. Compliance shall be demonstrated by the periodic monitoring and recordkeeping required by this license.
 - H. T&D Wood shall operate in accordance with a Department-approved Operations Plan, which outlines the facility configuration, raw material specifications, monitored parameters, and parameter ranges indicative of normal operation, and shall not make changes to the Operations Plan without prior approval from the Department.
- (18) **Performance Testing**
[06-096 C.M.R. ch. 115, BACT]
- A. T&D Wood shall conduct performance testing for VOC under representative operating conditions at least once annually with no more than 14 months between tests. Emissions of VOC shall be reported in units of lb/hr and lb/ton of pellets produced.
 - B. 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.
 - C. For any performance testing required by this license, T&D Wood shall submit to the Department for approval a performance test protocol, as outlined in the Department's Performance Testing Guidance, at least 30 days prior to the scheduled date of the performance test.

- D. Performance tests for PM shall be conducted in accordance with EPA Test Method 5 or other methods as approved by the Department.
- E. 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 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.
- F. Performance tests for visible emissions shall be conducted in accordance with EPA Test Method 9 or other method as approved by the Department.
- G. Performance tests for VOC shall be conducted in accordance with EPA Test Method 25A or other method as approved by the Department.
- H. Testing shall be performed under normal representative operating conditions.
- I. T&D Wood shall record the amount (tons) of green wood fed into the dryer 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. This data shall be included in the stack test report.
- J. T&D Wood shall record the tons of 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 (ton/hr) for that day. This data shall be included in the stack test report and used to develop a VOC emission factor in terms of lb/ton of pellets produced for the day of testing.
- K. On the day of performance testing, the facility shall be operated to minimize any changes to the levels of dry wood storage between Dryer #1 and the pelletizer.
- L. Concurrent with each test run, T&D Wood shall collect representative samples of the green wood fed into the dryer and the pellets produced and determine the moisture content of each using a test method approved by the Department. A minimum of one sample per test run shall be collected. This information shall be included in the stack test report.

(19) Facility-Wide VOC Limit

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

A. T&D Wood shall not exceed a facility-wide emission limit of 49.9 tpy for VOC on a 12-month rolling total basis.

B. Compliance Demonstration

1. Compliance with the annual VOC limit of 49.9 tpy shall be demonstrated 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 issuance of this license, the emission factor to be used is 5.27 lb/ton of pellets.
2. T&D Wood shall calculate VOC emissions on a calendar month basis and 12-month rolling total basis. The first calendar month using this methodology shall begin the month of this license amendment's issuance, i.e., the 12-month rolling total shall not go back further than the month of this license amendment's issuance. Calculation of VOC emissions for each calendar month and 12-month rolling total basis shall be completed no later than the 15th 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 report the facility's 12-month rolling total VOC emissions to the Department semiannually by January 31st and July 31st of each year.
4. 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.

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

- A. All exterior conveyors shall be equipped and operated with covers.
[06-096 C.M.R. ch. 115, BACT]
- B. The exhaust from the material handling cyclone associated with the Dry Storage Bin shall be controlled by a cartridge filter. [06-096 C.M.R. ch. 115, BACT]
- C. T&D Wood shall inspect all cyclones and the cartridge filter monthly for leaks. Compliance shall be demonstrated by the periodic monitoring and recordkeeping required by this license. [06-096 C.M.R. ch. 115, BACT]
- D. Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.
[06-096 C.M.R. ch. 101, § 3(C)]
- E. 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]
- F. T&D Wood shall not cause visible emissions (not including water vapor), measured as any opacity totaling twelve minutes or longer in any one-hour period, 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 the Environmental Protection Agency's (EPA's) *Method 22 - Visual determination of fugitive emissions from material sources and smoke emissions from flares*, 40 C.F.R. Part 60, Appendix A.
[06-096 C.M.R. ch. 115, BACT]

(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;
- B. Dryer #1 inlet temperature on a continuous basis and calculated 1-hr block averages;
- C. Records of monthly inspections of all facility cyclones and cartridge filters; and

D. Records of any cyclone or cartridge filter malfunction, corrective action taken, and all maintenance activities.

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

(22) **Portable Engines**

T&D Wood may operate portable engines on-site for construction, maintenance, and emergency purposes. These engines are not to be used for primary electrical needs (i.e., to power production equipment) or to drive process equipment.

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

(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 records necessary to comply with 06-096 C.M.R. ch. 137 including, but not limited to:

1. Tons of pellets produced on a monthly and calendar year basis;
2. Total hours of operation of Burner #1 and Dryer #1 on a monthly and calendar year basis; and
3. Calculations of VOC emissions on a calendar year total basis.

[06-096 C.M.R. ch. 137]

C. In reporting year 2023 and every third year thereafter, T&D Wood shall report to the Department emissions of hazardous air pollutants as required by 06-096 C.M.R. ch. 137, § (3)(C). 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)]

(24) If the Department determines that any parameter value pertaining to construction and operation of the proposed emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, T&D Wood may be required to submit additional information. Upon written request from the Department, T&D Wood shall provide information necessary to demonstrate AAQS will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure compliance with AAQS. Submission of this information is due

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

20

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

within 60 days of the Department's written request unless otherwise stated in the Department's letter. [06-096 C.M.R. ch. 115, § 2(O)]

DONE AND DATED IN AUGUSTA, MAINE THIS 25th DAY OF JULY, 2023.

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).

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 7/21/2022

Date of application acceptance: 7/25/2022

Date filed with the Board of Environmental Protection:

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

FILED
JUL 25, 2023
State of Maine
Board of Environmental Protection