

From: [Scott Nichols](#)
To: [Stevens, Rachel](#)
Subject: RE: Update on Wood Heater Amendments to Vermont's Air Pollution Control Regulations
Date: Thursday, September 1, 2022 4:30:56 PM

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Hello Rachel and John,

My company is an importer and distributor of wood burning equipment utilizing cord wood, pellets, and/or chips, primarily the Fröling brand. I have worked with John before as a stakeholder, but I'm not sure that I've met you, Rachel. I believe we may be the only company with a Vermont approved mid-sized wood chip/pellet boiler, a Fröling T4 150.

I read the proposed amendments to the wood heater rules and have the following questions and comments in no particular order. Thank you for taking some time to consider what I have written below:

- **Allowable fuels:** I note that unseasoned wood is specifically not allowed for use for affected heaters. The unseasoned wood definition is restricted to wood with <20% moisture content. The problem with the restriction and definition is that EPA test methods allow for greater wood moisture contents, up to 26% wood moisture content. It is difficult for consumers and manufactures when unusually restrictive and arbitrary thresholds are used. It is also practically impossible for Vermont to enforce the use of seasoned wood. Must we have a special section of our owner's manuals that proclaim that Vermont customers must use wood that is drier than what is required in every other state?
- **Requirements for sellers:** I note that the definition of distribute or sell is quite broad "means to distribute, sell, advertise for sale, offer for sale, hold for sale, ship, deliver for shipment, release for shipment, or receive and (having so received) deliver or offer to deliver. This term also includes conditional sales and long-term leases." How do you propose that a company avoid advertising for sale when the internet is accessible worldwide? How can a company not run afoul when using other advertising and marketing media, which crosses state boundaries, such as magazines where a distributor can't possibly know where subscribers are located? What is the actual harm in a company like Tarm USA, Inc. taking deposits for a product pending EPA certification if the product is not actually delivered? It seems Vermont is senselessly draconian with this definition. How can Vermont enforce; why would Vermont enforce a reasonable transaction between two honest parties? Note that when it comes to mid-sized wood-fueled heating equipment, the definition of sale seems to change to be a more conventional definition involving a trade of money for equipment. For example, a letter is required before a sale is agreed upon or transacted. The language indicates that an agreement necessitates a letter. The original Vermont definition of distribution and sale is far broader than an agreement or a transaction.
- Why do tree sap evaporators get a pass from regulation? Does Vermont have any actual data that shows mid-sized boilers produce more particulate pollutants than evaporators? I'm a sugar maker too, but this exemption seems arbitrary and unsupported. If Vermont

likes using wood for boiling sap, it should also like wood for heating its buildings.

That concludes my current thoughts and questions. Thank you once again for considering what I have written. I do appreciate State level stakeholder processes in which people cooperatively seek solutions. It has always been far more gratifying than what I hear about in the news media. I hope to join you on September 20th.

Feeling good about wood,

Scott Nichols
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From: Stevens, Rachel <Rachel.Stevens@vermont.gov>
Sent: Tuesday, August 30, 2022 9:42 AM
To: Wakefield, John <John.Wakefield@vermont.gov>
Cc: Shepard, Dave <Dave.Shepard@vermont.gov>; Hollingsworth, Jay <Jay.Hollingsworth@vermont.gov>; Frederick, Paul <Paul.Frederick@vermont.gov>; Snyder, Michael <Michael.Snyder@vermont.gov>; Perchlik, Andrew <Andrew.Perchlik@vermont.gov>; Prinzing, Lauren (she/her) <Lauren.Prinzing@vermont.gov>; Grass, David <David.Grass@vermont.gov>; Ulmer, Jared (he/him) <Jared.Ulmer@vermont.gov>; Irector@nescaum.org; Alex.Crimmin@lung.org; Trevor.Summerfield@lung.org; O'Toole, Megan <Megan.OTOole@vermont.gov>; Ellen.Burkhard@nyserda.ny.gov; david@sunwoodbiomass.com; jim@frolingenergy.com; andy.boutin@pellergy.com; rherzig@sandri.com; bbearvt@myfairpoint.net; Rachael Mascolino <rmascolino@veic.org>; asherman@biomasscenter.org; info@revermont.org; lmccreery@fs.fed.us; sales@burnchips.com; plewandowski@afsenergy.com; info@trojanenergy.com; Scott Nichols <scott@tarmusa.com>; jhinckley@all4inc.com; lancey.susan@epa.gov; info@woodchipboilersr.us; Hales, Heidi <Heidi.Hales@vermont.gov>; Charlie Cary <crcary@burnchips.com>
Subject: Update on Wood Heater Amendments to Vermont's Air Pollution Control Regulations

Good morning all,

I'm emailing to update this group about the wood heater amendments to Vermont's Air Pollution Control Regulations which have been filed with the Secretary of State's Office. We will be hosting a public meeting on the proposed amendments on Tuesday, September 20, 2022 at 1:00pm online and in-person in the Catamount Room at 1 National Life Drive, Davis 2, Montpelier. The Teams link is

From: [Barry Bernstein](#)
To: [Hollingsworth, Jay](#)
Cc: [Wakefield, John](#); [Matt Colburn](#); [Jeremy Mortl](#); [Gerry Guard](#); [Doug Elliott](#); [Stevens, Rachel](#)
Subject: Proposed New Amended Rule on Wood Chip Systems
Date: Friday, September 2, 2022 2:45:57 PM
Attachments: [ESP and Baghouse Installations.pdf](#)
[ESP and Baghouse Installations.pdf](#)

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Jay

I offer the following comments as the former co-owner of Better World Energy LLC., 1998 - 2020, involved in over 100 wood chip installations in the NE, 40+ in Vermont, including National Life and Norwich University. I have also had discussions with my former partner, Carl Bielenberg, ME, and a foremost internationally known expert on biomass, who concurs with my comments.

I know Messersmith Mfg. Inc, in business since 1982, a leader in wood chip systems in the US, shares the Division's goal of insuring that all new installations of wood chip heating plants achieve meeting or exceeding the proposed state standard for PM, at start up and throughout its operation, regardless of its MMBtu input/net output. We believe that a data collection requirement provides a better guarantee of performance than a one time compliance stack test when the unit is new.

The proposed new amended Rule on wood systems, (Page 19, paragraph below,), requires a stack test be done at each new site specific installation, 3 MMBtu input and above. Installations 3 MMBtu input and below, require a stack test on each model, unless a stack test has been done on that specific model in the past and has met 0.10 lbs/MMBtu PM, or below.

The attached charts below show that Messersmith systems, when a stack test was required, where BACT , a ESP or Baghouse, has been installed as part of the installation, will exceed the Minimum Requirement of 0.10 lbs/MMBtu PM. This has been true whether it was done on a hot water or high pressure steam system, on a small system (2.85 MMBtu/Net Output) or larger system such as at Norwich University (26.78 MMBtu/Net Output. I am sure the same will be true on our competitors systems, when. using today's BACT.

As you can see from the chart below , many states, do not require stack testing if BACT was part of the system. NH only requires a stack test if the owner wants to qualify for receiving and monetizing RECs, thru the NH program.

The stack test cost is approximately \$8 - 12,000, an added cost to the customer on top of installing, an already expensive, BACT i.e. ESP or a Baghouse.

There are considerably less expensive ways to assure the installed BACT is operating efficiently and effectively, not just when installed but consistently through out its operation. (See Below)

Messersmith Manufacturing Inc, with the most wood chip systems, of any manufacturer, in Vermont and NE, fully supports the Air Quality standards that are proposed. However they would request that when BACT technology, either a ESP or Baghouse, is included in an installation that a site test not be required. Instead, that the operator be required to keep digital records that show the system operates within the BACT Manufacturer parameters, which will insure that the minimum Rule requirement standard of 0.10 lbs /MMBtu PM or better is met at start up and always met during its operation.

BACT

ESP - the control panel that operates the ESP, has two meters on the front of the panel, a Voltage meter (Kw) and an Amperage meter (mA). As long as the Voltage meter and Amp Meter needles remain between Manufacturer's set points, the ESP will exceed the 0.10 lbs/MMBtu PM Minimum Requirement. When it is outside parameters, an alarm is sent to the operator and the wood chip system shuts down if operator does not respond to alarm with a programmed time.

Baghouse - The same is true of the Baghouse, as the ESP. However, the Baghouse parameters are set based on pressure change, caused by bag loading. When the pressure raises outside BACT manufacturer's parameters, an alarm is sent to operator, and wood chip system is shut down.

Messersmith Manufacturing, and other manufacturers of wood chip systems, are required by EPA for all systems 10 MMBtu and larger, to provide digital recording every 15 minutes of the BACT operation and this ability is part of Messersmith's OCS program on all systems, regardless of how small or large the system, and I assume the same is true for all manufacturers. The Air Pollution Division, can include as part of the Rule, that this information be furnished by the operator once a week for the first month, every quarter thereafter. The Rule can also require that the Division be informed when a malfunction alarm of the BACT occurs and what corrected action was taken, within 7 days of occurrence.

This should be far more effective, in insuring that the system is in compliance with the standard, at start up, and on an ongoing operational basis.

Thank you for your consideration and I know Messersmith will respond when the formal LCAR process begins, but wanted to discuss this with you prior to that time,

Sincerely,

Barry

Barry Bernstein
802 456 8843
802 477 3993 cell
Former Owner of Better World Energy LLC

NOTE:

PROPOSED RULE AMENDED

"3 MMBtu/hr: Units rated at 3 million BTU/hr heat input and larger must obtain a State permit and document compliance with the emission limits through a stack test for each installation. The emission limits for units 3 – 10 million BTU/hr are 0.10 lbs filterable PM /MMBTU heat input (EPA Method 5) and 270 ppm CO @ 7% O2 (EPA Method 10) and the limits for units >10 million BTU/hr are 0.030 lbs filterable PM /MMBTU heat input (EPA Method 5) and 270 ppm CO @ 7% O2 (EPA Method 10). The state permit threshold is being lowered from the current ~7 million BTU/hr to 3 million BTU/hr heat input. This new permit threshold is more in-line with, but still less stringent than, most other northeast states with the exception of Connecticut and Maine. The emission limit for units between 3 and 10 million BTU/hr heat input is the same as for small units 350,000 to 3 million BTU/hr heat input. A site-specific stack compliance test is required for each installation rated at 3 million BTU/hr heat input and larger."