

From: Laura Richardson [mailto:lrichardson@jordaninstitute.org]
Sent: Tuesday, December 03, 2013 12:01 PM
To: Bernstein, Barbara
Subject: Re: latest update and your recommendations please!!

Hi there,

Sorry for the delay. I am not going to be able to make tracking changes for a while, but here are my hand-written edits. Call if you would like them to be translated!

Meeting at DES went pretty well, they seem very open to exemptions.

Stay tuned for more.

~Laura

Laura Richardson

Executive Director
The Jordan Institute
6 Dixon Avenue, Suite 201
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On Tue, Dec 3, 2013 at 10:35 AM, Bernstein, Barbara <Barbara.Bernstein@puc.nh.gov> wrote:

Laura,

I just sent you the only response I received. Please get me the application asap as I have to get it to the Commissioners pronto.

Barbara Bernstein

Sustainable Energy Division
NH Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

603-271-6011

Barbara.bernstein@puc.nh.gov

From: Laura Richardson [mailto:lrichardson@jordaninstitute.org]
Sent: Monday, December 02, 2013 5:44 PM
To: Bernstein, Barbara
Subject: Re: latest update and your recommendations please!!

Hi Barbara,

Did you get responses to these questions? Are you seeking more responses?

I hope to get the edits to you tomorrow on this latest draft of the application.... I found a couple of juicy ones, so stay tuned! :-)

~Laura

Laura Richardson

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On Wed, Nov 27, 2013 at 1:32 PM, Bernstein, Barbara <Barbara.Bernstein@puc.nh.gov> wrote:

I have attached the latest DRAFT version of the Step 1 application for the proposed non-residential bulk-fuel fed wood pellet boiler and furnace rebate program. I appreciate all the time many of you have offered to review the application and provide input on the program. Your expertise and insight has already improved the application and will certainly strengthen the program.

I had an email this morning from an installer that raised a number of questions and I would greatly appreciate your input:

Should the following portions of a project be covered by this rebate plan?

- A) If someone needs long piping runs to join together two boiler rooms (for example: where one is being disabled and all heat will come from the other where the pellet boiler is).
- B) If a boiler is installed but heat distribution requires forced hot air should the rebate cover a new air handler with water to air heat exchanger in it? Should the rebate cover the cost of retrofitting an existing furnace with a water to air heat exchanger?
- C) Should the rebate cover the cost of reworking a hydronic heat distribution system where a new distribution loop is installed in the boiler room with new pump circulators and the addition of closely spaced tees, valves, etc... for the primary pellet boiler(s) and the existing (or new) back up boiler.
- D) Should the rebate cover the cost of a new back up boiler which is integrated into the new system that uses electricity, propane, oil or other fossil fuel fuel?

Happy Thanksgiving!

Barbara Bernstein
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State of New Hampshire
Public Utilities Commission
Sustainable Energy Division

21 S. Fruit Street, Suite 10, Concord, NH 03301-2429



Additionally, a rebate of 30% up to \$5,000 is available for thermal storage tanks and related infrastructure.

**STEP 1: REBATE PRE-APPROVAL APPLICATION
FOR NON-RESIDENTIAL BULK-FUEL FED WOOD PELLET
BOILERS AND FURNACES
REVISED 11-26-13**

PROGRAM SUMMARY

- The Public Utilities Commission (the Commission) will provide a rebate payment of 30% of the heating appliance and installation cost, up to a maximum of \$50,000, for investments in non-residential bulk-fuel fed wood pellet boilers and furnaces that become operational, serving designed intent and installer-certified on or after _____, __, 2013. An additional rebate of 30% of the tank and related infrastructure costs, up to \$5,000 is available for systems that include thermal storage.
- Qualifying boilers and furnaces must meet the following requirements:
 - Efficiency of 80% or greater measured using the higher heat value of the fuel.
 - Participation in the EPA Portfolio Manager program, or equivalent and approved program, to benchmark the building's energy use.
 - A minimum of three tons of wood pellet storage, capable of bulk delivery.
 - Compliance with the Terms & Conditions outlined below.
- Pre-approval is required to reserve your place in the funding queue. Once the facility has been installed at the site, the applicant must then complete and submit the Step 2 application to receive a rebate.
- The rebate pre-approval expires nine months from the date this application is pre-approved and funding is reserved.
- When all available program funding has been reserved for approved projects, applicants that meet all program and project requirements will be placed on a waitlist. Projects placed on the waitlist are not guaranteed funding.

Revised

****Because this application requires original signatures, no electronic copies will be accepted****

Please submit application and all associated documents to:
Sustainable Energy Division
New Hampshire Public Utilities Commission
21 S. Fruit Street, Suite 10
Concord, NH 03301-2429

Funds for this program are made available through New Hampshire's RPS statute, RSA 362-F, which requires each electricity provider to meet a percentage of customer load by purchasing or acquiring certificates representing generation from renewable energy based on total megawatt-hours supplied.

PROGRAM RECOMMENDATIONS

Thermal Storage – Applicants are strongly encouraged to discuss the benefits of thermal storage with their installer, which include:

- 1) Greatly improved seasonal efficiency;
- 2) Greatly reduced emissions;
- 3) Decreased boiler run time;
- 4) Decreased wear and tear on moving parts;
- 5) Decreased power consumption for motors and fuel ignition; and,
- 6) Higher occupant comfort because a boiler and tank respond immediately to heating loads. (If the pellet boiler must first light itself and heat up before it supplies heat there can be a lag.)

The ideal volume of thermal storage for pellet boilers is 20 gallons per 10,000 Btus. It is essential that the thermal storage tank and the pipes between the boiler and tank be extremely well insulated.

Heating Appliance Warranties – Carefully review all warranties for the parts, labor and the pressure vessel and/or heat exchanger. Ensure that the system is handled and maintained according to manufacturer's specifications.

Premium Quality Wood Pellets – Warranties for many heating appliances require the use of premium pellets. Low quality fuel will significantly reduce the life expectancy of the system and substantially increase operation and maintenance costs of the system. For more information on pellet fuel standards, visit the [Pellet Fuels Institute](#) website.

*check we
say rework
this section*

Properly Sized Systems – Applicants are strongly encouraged to have contractors perform a thorough analysis of the heat load. Oversized appliances create unnecessary expense and can cause the system to be unusable during mild weather conditions during Fall and Spring—causing unnecessary use of more expensive oil or propane in the back up or peaking boilers. In pellet systems for space heating that require over 300,000 BTU output, multiple staged boilers are recommended which gives added output flexibility.

Maintenance – Routine maintenance should be performed annually. In addition, applicants are strongly encouraged to install only heating appliances that automatically clean the burn chamber and the heat exchanger according to manufacturer's guidelines.

or more often

Under current NH DES rules, ask from commercial ~~state~~ wood pellet heating systems...

For questions regarding this rebate program, e-mail rcphsrebates@puc.nh.gov

PROGRAM ELIGIBILITY, TERMS AND CONDITIONS

Please read the Terms and Conditions carefully prior to completing the form.

1. This program is administered in accordance with RSA 362-F:10 and Puc 2500 (administrative rules). Any applicant requesting a rebate payment for any renewable energy system is responsible for meeting all terms and conditions of the program.
2. Only systems that become operational after _____, __, 2013 are eligible. Systems that were installed and became operational before the official commencement date are not eligible.
3. Projects must be located in New Hampshire. Applicant must be a project owner and an end-use customer of a provider of electricity located in New Hampshire, pursuant to Puc 2507.04. Shared-ownership projects or projects on leased space will be eligible for this program provided that the building owner gives written consent for the project and/or the building owner is a project partner.

4. Applicants receiving this rebate may combine other local, state, or federal financial incentives with this rebate, but must meet the requirements of this rebate program.
5. The rebate payment is 30% of the system cost and installation up to \$50,000. An additional rebate allowance of 30% of the tank and related infrastructure, up to \$5,000 is available for entities installing thermal storage.²
6. Rebates are subject to the availability of funds received by the Commission under RSA 362-F and appropriated by the legislature. Complete applications will be processed in the order in which they are received. Applications that meet all program requirements will be approved as such. In a separate step by the Commission, funding will be reserved up to the total amount allocated and on hand for this program. Once all allocated funds are reserved, approved applications will be placed in a funding queue waitlist, again, in the order received and approved. The 9 month deadline for completion of the installation and submission of the Step 2 Form will not be triggered until funding is reserved for the project and the applicant is notified of such. If installation is not complete and the Step 2 Form is not received by the Commission within 9 months of funding reservation, the funding may be released to the next approved applicant in any funding queue waitlist. There is no guarantee that funding will be available when applications are approved.
7. An extension may be secured by contacting the Sustainable Energy Division provided funding is available and the applicant is able to make a reasonable case for the need for an extension.
8. The Step 2 Final Rebate Request Form must be submitted after the installation is complete and within nine months of the date that this rebate pre-approval form is approved and funding for the project is reserved. Applicants may submit both forms together if the installation is already complete but the rebate payment is conditioned on meeting the requirements listed herein.
9. The bulk-fuel fed wood pellet boiler or furnace system funded under this program must be located on, or at, the applicant's New Hampshire non-residential building site, which may include a business, non-profit organization, educational institution, governmental or municipal entity, or multi-family residence of 4 units or greater, and does not qualify for a rebate under the residential wood pellet rebate program.
10. Customers of municipal utilities are not eligible for a rebate under this program because municipal utilities are not subject to the NH Renewable Portfolio Standard RSA 362-F and thus do not contribute to program funding directly or indirectly.
11. Applicants must show evidence of participation in the EPA's Portfolio Manager Program, or equivalent and approved program, to benchmark building energy use.
12. This rebate payment must be used for the installation of new, commercially available, high thermal efficiency¹, bulk-delivery capable wood pellet boilers and furnaces utilized in a central heating system or industrial process where:
 - a. The system has a thermal efficiency rating of 80% or greater.
 - b. The total particulate matter emissions rating is 0.32 lb/MMBtu heat output or less.²
 - c. Basic attributes of allowed boilers or furnaces include:
 - i. The heating appliance turns itself on in response to a demand for heat.
 - ii. The heating appliance modulates to lower output and/or turns itself off when the heating load decreases or is satisfied.
 - iii. Fuel is automatically conveyed from the bulk storage container/area (device) to the burn chamber in a planned/integrated path without operator intervention of any sort.
 - d. Bulk fuel capability features include:
 - i. The boiler or furnace system has built-in fuel conveyance capability that can be pneumatic (suction) or mechanical (auger) or a combination of two transport mechanisms from the bulk storage device. The fuel conveyance can also be an add-on feature as long as it allows for seamless and safe conveyance of fuel from the storage device to the burn chamber without operator intervention of any sort;

¹ For the purposes of this program, high efficiency is defined as boilers/furnaces that operate at a minimum thermal efficiency of 80% using the higher heating value (HHV) of the fuel. Efficiency rates may be determined by third party testing laboratories approved and recognized by authorities having jurisdiction in the United States, Canada, and/or the European Union.

² Emissions may be determined by third party testing laboratories approved and recognized by authorities having jurisdiction in the United States, Canada, and/or the European Union.

- ii. The boiler or furnace system can convey fuel from almost any appropriately adapted bulk storage device to allow flexibility in placement and design. The heating system shall not be restricted to any one bulk storage device, for instance one made by the same manufacturer as the appliance;
- iii. The pellet-fuel storage bin shall have a minimum capacity of three tons; and,
- iv. Pellet fuel storage bin access (by pipe or auger or both) is located 100 feet or less from the street or driveway. Contact your local distributor of wood pellets to ensure that delivery is possible to your location.

e. Key safety features include:

- i. There is a positive closure and/or fire extinguishing device and/or emergency disconnection device between the burn chamber and the bulk storage device to keep the fire from reaching the bulk pellets.
- ii. The fuel fill pipe to the storage bin must be grounded or anti-static.
- iii. A placard is attached to the bin with safety precautions regarding best management practices.
- iv. A carbon monoxide detector (CO) is installed in the room with the pellet boiler or furnace and internal pellet storage or hopper.³

f. A central heating system provides warmth to the whole interior of a building (or portion of a building), through an air or water distribution system, from one point to multiple rooms, not direct space heating. A pellet central boiler or furnace to be funded under this rebate program must be capable of being the only or primary central heating system, though it may also provide hot water through a heat exchanger and may be interconnected with a supplemental solar hot water heating system. There may also be other supplemental space heating sources or interconnected back-up systems in the building, though none should be required.

- 13. The wood pellet boiler or furnace must be installed by a qualified installer who is a sole proprietorship, company, corporation, limited liability company, or other organization authorized to conduct business in the State of New Hampshire that is normally commercially engaged in the installation of wood pellet boilers and furnaces or who is a licensed New Hampshire plumber who has received training in the installation of the system installed.
- 14. Outdoor wood-pellet boilers are eligible for this program if they meet the efficiency requirements listed on page 3. Wood-pellet stoves, regular stick or cord wood stoves, and cord wood boilers and furnaces are not eligible for this program.
- 15. Replacement or expansion of system components does not constitute an eligible project unless it includes installation of a new eligible boiler.
- 16. Do-It-Yourself installations do not qualify.
- 17. Used parts cannot be included in the cost of the wood pellet boiler or furnace system used to calculate the rebate payment. The boiler or furnace and conveyance system must be new. *or thermal storage system*
- 18. Applicants who choose to install systems, in whole or in part, prior to Step 1 approval by the Commission may still apply for this rebate payment by submitting both the Step 1 and Step 2 applications, but the rebate payment is conditioned on meeting the requirements listed herein and available funding.
- 19. Any wood pellet boiler or furnace system must comply with all manufacturers' requirements and the State Building Code pursuant to RSA 155-A:1, IV and any applicable local codes or ordinances. Manufacturers must provide third-party testing data to verify that their systems meet the efficiency requirements specified on page 2.
- 20. Any wood pellet boiler or furnace system is subject to inspection and monitoring by the Commission, the State Fire Marshal and local code authorities or their agents for safety and performance.
- 21. Rebates are subject to the availability of funds; complete applications will be processed in the order in which they are received.
- 22. All program requirements and documentation must be complete and submitted in order to receive approval for a rebate payment. Payment of the rebate may be subject to inspection of the facility by an agent of the Commission to confirm that the system is operational and consistent with the application, with appropriate advance notice to the owner.

³ A carbon monoxide detector is not necessary for outdoor storage.

- EIN#
23. Certain information concerning the performance and effect of this rebate program, including system details, name, address, zip code, and total installed costs of systems installed with program support may be available to the public and may be publicly posted. Additional information may be released upon official request. Specific personal information in which the applicant has a strong privacy interest, including Social Security numbers, telephone numbers and email addresses will remain confidential to the extent permitted under the NH Right-to-Know law, RSA 91-A.
 24. The Commission reserves the right to request system performance data for a period of ten (10) years after issuing the rebate. Such information may include fuel use, equipment service needs, and boiler cycling information.
 25. If it is determined that the rebate was obtained fraudulently, the recipient, in addition to other penalties or charges, may be liable to the State of New Hampshire for the entire amount of the rebate.
 26. Any rebate received under this program may be treated as taxable income by the IRS. It is the responsibility of the recipient of this rebate payment to consult with his or her tax advisor to determine the correct tax treatment of these payments. Applicants who do not provide their Federal Taxpayer ID, Employer ID, or Social Security number on the Step 2: Final Rebate Request Form will not be eligible for reimbursement.
 27. The rebate covers the entire installed system, including pellet storage and conveyance, boiler or furnace, controls, thermal storage tank, and installation, up to the point where the system interconnects with the building's heat distribution system.
 28. Any installer who fails to complete installations in a workmanlike manner, consistent with generally accepted industry practices and generally free of material defects, including failure to comply with applicable building and fire safety codes, as may be evidenced by an objective third party inspection and evaluation, may be barred from future program participation.
 29. The Commission reserves the right to modify the program terms, conditions, or technical requirements when it is deemed to be in the public interest.
 30. Incomplete, inaccurate, or ineligible applications will be rejected and removed from the queue.

Note: For the **STEP 2: FINAL REBATE REQUEST FORM FOR OPERATIONAL SYSTEMS** you will be expected to provide the following:

- Paid invoices,
- Pictures of the final installation, including: *photographs*
 - the heating system;
 - the storage system; and, *the thermal storage system*
 - the carbon monoxide detector.
- A copy of your building permit and documentation that the system has been inspected by a local building code official and/or sign-off from a local fire jurisdiction.

APPLICANT INFORMATION

Name: _____

Mailing Address: _____

Town/City: _____ State: _____ Zip Code: _____

Installation Address (if different): _____

Telephone: _____ Cell: _____

County: _____ Email address: _____

Please check if you would like to receive periodic updates from the PUC's Sustainable Energy Division through their Email Alert List regarding grant opportunities, educational events and news about renewable energy and energy efficiency in New Hampshire. *unbad*

BUILDING INFORMATION

Please describe the primary use of the building. (e.g. business, non-profit, educational institution, government/municipal entity, multi-family unit of 4 units or greater, or other.)

Check here to confirm that the EPA's Portfolio Manager program, or equivalent and approved program, has been used to benchmark the building's energy performance.

Briefly list past energy audits, energy efficiency upgrades, and benchmarking activities completed for this specific location.

Year of original building: _____ Building Size (Sq Ft) _____

INFORMATION ON THE EXISTING HEATING SYSTEM

FUEL USED:	Oil <input type="checkbox"/>	Natural Gas <input type="checkbox"/>	Propane <input type="checkbox"/>	Wood <input type="checkbox"/>	Electric <input type="checkbox"/>	Other (please describe) <input type="checkbox"/>
Approximate age of heating appliance:	Rated heating appliance efficiency:					
Source of rating: (e.g. your oil service company or your new heating system installer):						

REBATE CALCULATION

Project Components	
Appliance (Boiler or Furnace)	\$
Fuel Storage Bin	\$
Fuel Conveyance	\$
Controls & Circulators	\$
Indirect Hot Water Heater	\$
Labor	\$
Carbon Monoxide Detector	\$
Other*	\$
Total Project Cost	\$
If thermal storage is included, complete the following:	
Thermal Storage 30% of the tank and related infrastructure costs, up to \$5,000	\$
Total Rebate Requested	\$

*Other eligible components up to the point of interconnection with heat distribution system.

WOOD PELLET CENTRAL BOILER AND FURNACE REQUIRED ATTACHMENTS

These items (copies) must be attached to the application:	Attached
Signed contract with qualified installer	<input type="checkbox"/>
Photos of the old system <i>photographs</i>	<input type="checkbox"/>
Installer's certification or approved authorization from the manufacturer or distributor	<input type="checkbox"/>

DECLARATION Only one signature needed per facility.

The Undersigned applicant declares under penalty of perjury that:

- 1) the applicant intends to purchase and install the wood pellet central boiler or furnace system described in this application;
- 2) the applicant has read and understands the terms and conditions set forth in this application with attachments and has agreed to abide by those requirements;
- 3) the information provided in this form is true and correct to the best of the applicant's knowledge;
- 4) the applicant agrees that the system and documents supporting the application may be audited and inspected by the Commission or an agent of the Commission; and,
- 5) the applicant gives permission to the PUC to contact the applicant's installer in order to notify the installer of pre-approval of the rebate.

Applicant's Signature: _____ Date: _____

Subscribed and sworn before me this _____ (day) of _____ (month) in the year _____

County of _____ State of _____

Notary Public/Justice of the Peace

My Commission expires _____

INSTALLATION INFORMATION

Anticipated start date:		Anticipated date of completion:	
Rated efficiency of new boiler or furnace:			

NEW HEATING SYSTEM INFORMATION

Manufacturer:		Product name:		Model #	
Please indicate if your new heating system will be a boiler or a furnace.				Boiler: <input type="checkbox"/>	Furnace: <input type="checkbox"/>
What size is your new heating system (Btu/hour)?					
<i>If thermal storage is included, complete the following:</i>					
Tank name and product identification			Size (gallons)		
Heating System Distribution Description (number of zones, radiant, convectors, outlet temperature, inlet temperature)					
(For purposes of data collection only) are you removing your old heating system? Yes <input type="checkbox"/> No <input type="checkbox"/>					

PELLET FUEL STORAGE SYSTEM INFORMATION

Manufacturer:		Product Identification #:	
Capacity (tons):			
Conveyance: (how the pellets get from the storage vessel to the heating system)			

INSTALLER

Installer Name:		Company:	
Mailing Address:			
Town/City:		State:	Zip Code:
Telephone:		Email:	
<i>not necessary</i> DUNS # or Employer ID #			
Company Type:	HVAC <input type="checkbox"/>	Plumbing <input type="checkbox"/>	Other <input type="checkbox"/> Describe: <input type="text"/>
Has the installer completed approved manufacturer or distributor installation training?			Yes <input type="checkbox"/> No <input type="checkbox"/>
If the installation is being done by a NH licensed plumber, provide the license number.			