State of New Hampshire
Public Utilities Commission
21 S. Fruit Street, Suite 10, Concord, NH 03301-2429

DRAFT

APPLICATION FORM FOR

RENEWABLE ENERGY SOURCE ELIGIBILITY FOR CLASS I THERMAL SOURCES WITH RENEWABLE THERMAL ENERGY CAPACITY 200,000 BTU/HR OR LESS

Pursuant to New Hampshire Administrative Code PUC 2500 Rules

- Please submit one (1) original and two (2) paper copies of the completed application and cover letter* to:
  Debra A. Howland
  Executive Director
  New Hampshire Public Utilities Commission
  21 South Fruit Street, Suite 10
  Concord, NH 03301-2429

- Send an electronic version of the completed application and the cover letter electronically to executive.director@puc.nh.gov.

* The cover letter must include complete contact information and identify the renewable energy class for which the applicant seeks eligibility. Pursuant to PUC 2505.01, the Commission is required to render a decision on an application within 45 days of receiving a completed application.

If you have any questions please contact Barbara Bernstein at (603) 271-6011 or Barbara.Bernstein@puc.nh.gov.

Only facilities that began operation after January 1, 2013 are eligible.

Is this facility part of a Commission approved aggregation?
Yes _____ No ______
Aggregator's Company Name: ____________________
Aggregator Contact Information: ____________________

Contents

Attachment Labeling Instructions

Please label all attachments by Part and Question number to which they apply (e.g. Part 3-7). For electronic submission, name each attachment file using the Owner Name and Part and Question number (e.g. Pearson Part 3-7).

Part 1. General Application Information

Please provide the following information:

Applicant

Name: ______________________________

Mailing Address: ______________________________

Town/City: ______________ State: ______ Zip Code: ______

Primary Contact: ______________________________

Telephone: ______________ Cell: ______________

Email Address: ______________________________

Facility

Name: ______________________________

Physical Address: ______________________________

Town/City: ______________ State: ______ Zip Code: ______

If the facility does not have a physical address, the Latitude: ______ & Longitude ______

Installer

Name: ______________________________

Installer License Number, if applicable: ______________________________

Mailing Address: ______________________________

Town/City: ______________ State: ______ Zip Code: ______

Primary Contact: ______________________________

Telephone: ______________ Cell: ______________

Email Address: ______________________________

If the equipment was installed by the facility owner, check here: ☐

If the facility operator is different from the owner, please provide the following:

Facility Operator Name: ______________________________

Facility Operator Telephone Number: ______________________________

Independent Monitor

Name: ____

Mailing Address: ____

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

Primary Contact: ____

Telephone: ____________________ Cell: ____________________

Email Address: ____

NEPOOL/GIS Asset ID and Facility Code

In order to qualify your facility's electrical production for RECs, you must register with the NEPOOL – GIS. Contact information for the GIS administrator follows:

James Webb

Registry Administrator, APX Environmental Markets

224 Airport Parkway, Suite 600, San Jose, CA 95110

Office: 408.517.2174

jwebb@apx.com

Mr. Webb will assist you in obtaining a GIS facility code and an ISO-New England asset ID number.

GIS Facility Code # ____________________ Asset ID # ____________________

Has the facility been certified under another non-federal jurisdiction's renewable portfolio standards?

Yes ☐ No ☐

If you selected yes, *please provide proof of certification in the form of an attached document as* ***Attachment 1-8***.
Attach any supplementary documentation that will help in classification of the facility as ***Attachment 1-9.***

Part 2. Technology Specific Data

All Technologies

Renewable energy source: **Solar** ❑ **Geothermal** ❑ **Biomass** ❑

Rated Thermal Capacity :

Btu/hr ____________________ MW equivalent ____________________

Please show your calculation here: ____

Date of initial operation using renewable source: ____________________

Part 3. Metering and Measurement of Thermal Energy and REC Calculations

This section covers the thermal metering system including methods for calculation and reporting useful thermal energy. **A copy of PUC 2506.04 of the RPS rules is included as Appendix A of this application.** Applicants for small thermal systems may choose to meter the thermal energy generated (Part 3A) or use a simplified approach employing run time meters (Part 3B) coupled with calculations to estimate energy production based on operating time.

Indicate method used and complete corresponding section of the application:

Select one	Attachment Number	Description
❑	**3A** (see page 5 – 6)	**Metering with a Heat Meter pursuant to 2506.04(g)(1)**
❑	**3B-Solar** (see page 7)	**Runtime metering of solar thermal pursuant to 2506.04(h)**
❑	**3B-Geothermal** (see page 7)	**Runtime metering of geothermal pursuant to 2506.04(i)**
❑	**3B-Biomass** (see page 8)	**Runtime metering of biomass pursuant to 2506.04(j)**

Only complete the section of the application that corresponds with the attachment number checked above.

3A. Metering with a Heat Meter

Using the table below, identify the thermal metering system packaged system or custom components (e.g., heat meters, flow meters, pressure and temperature sensors) used to measure the useful thermal energy and enter the accuracy of measurement for the entire system:

System or Component	Product name	Product Manufacturer	Model No.	Product Seller
Total System Accuracy (Percent)		%		

*Attach component specification sheets (Accuracy, Operating Ranges) as **Attachment 3A-1**.* ☐

*Attach a simple schematic identifying the location of each sensor that is part of the metering system as **Attachment 3A-2**.* ☐

Check the applicable standard for meter accuracy prescribed in Puc 2506.04 among the six choices below (compliance with Puc 2506.04 shall be certified by a professional engineer licensed by the state of New Hampshire and in good standing):		
If the facility is using a liquid or air based system, check the method that applies:		
A	Installation and use of heat meters capable of meeting the accuracy provisions of European Standard EN 1434 published by CEN, the European Committee for Standardization. The heat meter shall have the highest Class flow meter that will cover the design flow range at the point of measurement and a temperature sensor pair of Class 5K or lower.	❑
B	Installation and use of meters that do not comply with European Standard EN 1434, provided that the manufacturers' guaranteed accuracy of the meters is ±5.0% or better,	❑
C	Use of an alternative metering method approved pursuant to Puc 2506.06.	❑

If the facility is using a steam-based system, check the method that applies:		
A	Installation and use of meters with accuracy of ±3.0% or better.	❑
B	Installation and use of meters with system accuracy that do not meet 2.b.1) but are ±5% or better.	❑
C	Use of an alternative metering method approved pursuant to Puc 2506.06.	❑

Please summarize the manufacturer's recommended methods and frequency for metering system calibration and provide reference for source document (e.g. owners/operators manual):

REC Calculation Discount Factor	
REC Calculation Discount factor for meter accuracy. (Enter 0 if no discount is required):	_____ %
If the meters used to measure useful thermal energy comply with the accuracy of the European Standard EN 1434 for liquid systems or use of meters with accuracy of ±3.0% or better for steam systems enter zero, for all other systems enter the sum total of the manufacturer's guaranteed accuracy of the meters used or the accuracy of the alternative method approved pursuant to Puc 2506.06.	_____ %

3B-Solar *for Systems Using Solar Technologies*

This method for calculating useful thermal energy is based on the run time of the collector system's circulating pump. Please fill out the following information regarding the meter at your facility.

Product Name ______________________________

Product Manufacturer ____________________ Model Number ____________________

In order to calculate the useful energy produced by a solar thermal facility, please fill out the following information on variables determined one time for the calculations:			
Variable	**Definition**	**Value**	**Units**
R	SRCC OG100 rating on Medium Radiation C Conditions		Thousands of Btu per day
L	Orientation and shading losses		Percentage as a decimal < 1
h	Conversion factor from SRCC OG100 to hourly basis	11	Hours per day
Please refer to Appendix A, Puc 2506.04 Metering of Sources that Produce Useful Thermal Energy subpart H to determine the useful thermal energy of your facility.			

3B-Geothermal *for Systems Using Geothermal Thermal Technologies*

This method for calculating useful thermal energy is based on the run time of the system's ground loop pump. Please fill out the following information regarding the meter at your facility.

Product Name ______________________________

Product Manufacturer ______________________________

Model Number ______________________________

In order to calculate the useful energy produced by a geothermal thermal facility, please fill out the following information for each heat pump installed at facility:

AHRI Certified Heat Pump Performance Ratings

N	Manufacturer	Series/Model	Part Load		Full Load
			COP [-]	HC [MBtuH]	HC [MBtuH]

Total system heating capacity (sum of Full Load HC):

Please refer to Appendix A, Puc 2506.04 Metering of Sources that Produce Useful Thermal Energy Subpart I to determine the useful thermal energy of your facility.

3B-Biomass *for Systems Using Thermal Biomass Technologies*

This method for calculating useful thermal energy is based on the run time of the system's fuel auger. Please fill out the following information regarding the auger at your facility.

Product Name ____

Product Manufacturer ____

Model Number ____

<table>
<tr><td colspan="5">In order to calculate the useful energy produced by a solar thermal facility, please fill out the following information unless it is already given:</td></tr>
<tr><th>Variable</th><th colspan="2">Definition</th><th>Value</th><th>Units</th></tr>
<tr><td>D</td><td colspan="2">Default pellet density</td><td>0.0231</td><td>Pounds</td></tr>
<tr><td>R</td><td colspan="2">Auger revolutions</td><td></td><td>Per hour</td></tr>
<tr><td>V</td><td colspan="2">Auger feed volume
Assume one of the following:
a. 5 cubic inches per revolution for augers with a 2" inside diameter;
b. 20 cubic inches per revolution for augers with a 3" inside diameter;
c. 50 cubic inches per revolution for augers with a 4" inside diameter;
d. 95 cubic inches per revolution for augers with a 5" inside diameter; or
e. 150 cubic inches per revolution for augers with a 6" inside diameter</td><td></td><td>Cubic inches per auger revolution</td></tr>
<tr><td>EC</td><td colspan="2">Default energy content of the fuel pellet</td><td>7870</td><td>Btu/lb</td></tr>
<tr><td rowspan="4">ASE</td><td colspan="2">Default thermal efficiency (choose one):</td><td></td><td rowspan="4">Percentage converted to a decimal</td></tr>
<tr><td>☐</td><td>Based on the manufacturer's warranty</td><td></td></tr>
<tr><td>☐</td><td>Based on average seasonal thermal efficiency</td><td></td></tr>
<tr><td>☐</td><td>Based on default value of 65%</td><td>0.65</td></tr>
<tr><td colspan="5">Please refer to Appendix A, Puc 2506.04 Metering of Sources that Produce Useful Thermal Energy Subpart J to determine the useful thermal energy of your facility.</td></tr>
</table>

☐ If a thermal biomass facility, provide the New Hampshire Department of Environmental Services approval letter that the facility meets the provisions set forth in Puc 25005.02(d)15d as **Attachment 3-A**. (See the proposed best management practices that are consistent with the recommendations in the report entitled "Emission Controls for Small Wood-Fired Boilers" prepared for the US Forest Service, Western Forestry Leadership Coalition, by RSG, Inc., May 6, 2010 available at, http://www.wflccenter.org/news_pdf/361_pdf.pdf, as specified in Appendix B.

Part 4. Affidavits

The following affidavits must be completed by the owner/application preparer and a NH Professional Engineer attesting to the accuracy of the contents of the application pursuant to PUC 2505.02 (b) (14).

Owner/Preparer Affidavit

AFFIDAVIT

1. I, ____________________ have reviewed the contents of this application and attest that it is accurate and is signed under the pains and penalties of perjury.
2. I, ____________________ attest that the system is installed and operating in compliance with applicable building codes.

Applicant's Signature ____ Date ___________________________

Applicant's Printed Name ______________________________________

If the applicant prepared the application leave the following blank

Preparer's Signature ____ Date ___________________________

Preparer's Printed Name ______________________________________

Subscribed and sworn before me this ______ Day of ___________ (Month) in the year __________________

County of ____________________ State of __________________

Notary Public/Justice of the Peace Seal My Commission Expires: __________________________ (date.)

NH Professional Engineer Affidavit

AFFIDAVIT

I, ________________________________ attest that this facility meets the requirements of the thermal REC eligibility requirements of Puc 2500, including the thermal metering and measurement methodologies and standards and REC calculation methodologies.

Professional Engineer's Signature ____________________________________ Date _____________________

NH Professional Engineer License Number ____________________________

PE Stamp

Attachment Checklist				
Application Section		Item Description		Check box
Part 1				☐
Attachment 1-A		If the facility has been certified under another non-federal jurisdicition's renewable portfolio standard, provide proof thereof.		☐
		Please note that GIS operating rules REQUIRE an independent monitor. Applications will not be fully certified unless an independent monitor is identified.		☐
Attachment 1-B		Attach any supplementary documentation that will help in the classification of this facility.		☐
Part 3				
Attachment 3A -1		Attach component specification sheets (Accuracy, Operating Ranges)		☐
Attachment 3A -2		Attach a simple schematic identifying the location of each sensor that is part of the metering system.		☐
Part 3B-1				
Biomass only!		*Biomass – best management practices approval from DES*		☐

Appendix A. Excerpt from Puc 2500 – Certain Thermal Metering Provisions

For complete rules and requirements related to the RPS and REC eligibility, please refer to Puc 2500.

Puc 2506.04 Metering of Sources that Produce Useful Thermal Energy.

(a) Sources producing useful thermal energy shall comply with this part in metering production of useful thermal energy.

(b) Sources shall retain an independent monitor to verify the useful thermal energy produced.

(c) Sources shall take data readings for the measurement of useful thermal energy at least every hour. The useful thermal energy produced shall be totaled for each 24 hour period, each monthly period, and each quarter.

(d) Sources shall install heat meters to measure thermal energy output in accordance with the manufacturer's specifications and as noted in this part. The heat meters shall operate within the conditions for which the meter accuracies are guaranteed.

(e) Large thermal sources using a liquid or air based system shall measure the useful thermal energy produced using one of the following methods:

(1) Installation and use of heat meters with an accuracy that complies with European Standard BS EN 1434-1 (2007 edition) published by CEN, the European Committee for Standardization, available at http://shop.bsigroup.com/SearchResults/?q=bs%20en%201434-1:2007, as specified in Appendix B, and that complies with paragraph (k), (l) or (m). The heat meter shall have the highest class flow meter that will cover the design flow range at the point of measurement and a temperature sensor pair of Class 5K or lower. Compliance shall be confirmed by a professional engineer licensed by the state of New Hampshire and in good standing;

(2) Installation and use of meters that do not comply with subparagraph (e)(1), provided that the manufacturers' guaranteed accuracy of the meters is ±5.0% or better, and provided that a professional engineer licensed by the state of New Hampshire and in good standing confirms that the meters were installed and operate according to the manufacturers' specifications and in accordance with paragraph (k), (l) or (m); or

(3) Use of an alternative metering method approved pursuant to Puc 2506.06, provided that the accuracy of any such method is ±5.0% or better, and provided that a professional engineer licensed by the state of New Hampshire and in good standing confirms that the source implemented the alternative method as approved by the commission and certifies that the alternative method achieves the stated accuracy of ±5.0% or better.

(f) Large thermal sources using a steam-based system shall measure the useful thermal energy produced using one of the following methods:

(1) Installation and use of meters with accuracy of ±3.0% or better, which compliance shall be confirmed by a professional engineer licensed by the state of New Hampshire and in good standing and in accordance with (m) below;

(2) Installation and use of meters that do not comply with the accuracy of subparagraph (f)(1), provided that the manufacturer's guaranteed accuracy of the meters is ±5.0% or better, and provided that a professional engineer licensed by the state of New Hampshire and in good standing confirms that the meters were installed and operate according to the manufacturer's specifications and in accordance with (m) below; or

(3) Use of an alternative metering method approved pursuant to this section, provided that the accuracy of any such method is ±5.0% or better, and provided that a professional engineer licensed by the state of New Hampshire and in good standing confirms that the source implemented the alternative method and confirms that the alternative method achieves the stated accuracy of ±5.0% or better.

(g) Small thermal sources shall measure useful thermal energy produced using one of the following methods:

(1) For any small thermal sources, the methods described in (e) or (f) above;

(2) For small thermal sources using solar thermal technologies, the method described in (h) below;

(3) For small thermal sources using geothermal technologies, the method described in (i) below; or

(4) For small thermal sources using thermal biomass technologies, the method described in (j) below.

(h) Small thermal sources that elect pursuant to (g)(2) above to measure useful thermal energy pursuant to this paragraph shall calculate useful thermal energy produced by small thermal sources using solar technologies as follows:

(1) "Q" means thermal energy generated, stated in Btu's;

(2) "R" means the Solar Rating and Certification Corporation (SRCC) OG100 rating on Mildly Cloudy C Conditions, stated in thousands of Btu's per day;

(3) "L" means the orientation and shading losses calculated based on solar models such as Solar Pathfinder, T-sol, Solmetric, or another model approved by the Commission, converted from a percentage to the equivalent number less than one;

(4) "t" means the total operating run time of the circulating pump as metered, stated in hours;

(5) "h" means 11 hours per day to convert the SRCC OG100 rating to an hourly basis, the conversion factor; and

(6) To calculate Q, the useful thermal energy produced by small thermal sources using solar technologies, the source shall compute the product of R, t, 1,000 and the result of 1 minus L, and divide the result by h, as in the formula below:

$$Q = [R * t * 1{,}000 * (1 – L)] / h$$

(i) Small thermal sources that elect pursuant to (g)(3) above to measure useful thermal energy pursuant to this paragraph shall calculate useful thermal energy produced by small thermal sources using geothermal technologies as follows:

(1) "Q" means thermal energy generated, stated in Btu's;

(2) "HC" means the Air Conditioning, Heating and Refrigeration Institute (AHRI) certified heating capacity at part load, stated in Btu's per hour;

(3) "COP" means the AHRI Certified Coefficient of Performance;

(4) "t" means total operating run time of the heat pump when operating in heating mode, , stated in hours; and

(5) Small thermal sources using geothermal technologies shall calculate Q, the useful thermal energy produced for each heat pump, by multiplying heat pump HC by the difference between heat pump COP and 1, multiplying the result by t, and dividing the result by COP, as in the formula below:

$$Q = [HC * (COP – 1) * t] / COP$$

(j) Small thermal sources that elect pursuant to (g)(4) above to measure useful thermal energy pursuant to this paragraph shall calculate useful thermal energy produced by small thermal sources using thermal biomass renewable energy technologies as follows:

(1) "Q" means the thermal energy generated, stated in Btu's;

(2) "D" means the default pellet density, which shall be 0.0231 pounds per cubic inch;

(3) "R" means the auger revolutions per hour;

(4) "V" means auger feed volume, stated in cubic inches per auger revolution;

(5) Small thermal sources shall assume that V equals one of the following:

a. 5 cubic inches per revolution for augers with a 2" inside diameter;

b. 20 cubic inches per revolution for augers with a 3" inside diameter;

c. 50 cubic inches per revolution for augers with a 4" inside diameter;

d. 95 cubic inches per revolution for augers with a 5" inside diameter; or

e. 150 cubic inches per revolution for augers with a 6" inside diameter;

(6) "EC" means the default energy content of pellet fuel, which shall be 7870 Btu per pound;

(7) "ASE" means the default thermal efficiency expressed as a percentage based on the manufacturer's warranty of average seasonal thermal efficiency, or based on a default thermal efficiency of 65%;

(8) "t" means the total auger run time in hours as metered;

(9) The estimated amount of fuel burned (the product of D, R, V and t) shall be verified by the fuel purchase records and fuel inventory; and

(10) Small thermal sources using thermal biomass renewable energy technologies with wood pellets as the fuel source may calculate Q, the useful thermal energy produced, by computing the product of D, R, V, EC, ASE and t, as in the formula below:

$$Q = (D * R * V * EC * ASE * t)$$

(k) Large thermal sources, and small thermal sources that elect pursuant to (g)(1) above, using solar thermal technologies shall calculate useful thermal energy as follows:

(1) "Q_g" means the heat generated in the collector loop, stated in Btu's;

(2) "dm/dt" means the mass flow of the collector working fluid measured near the inlet to the solar storage tank, stated in pounds per hour;

(3) "c_p" means the specific heat of the collector fluid, stated in Btu's per pound (mass), degrees Fahrenheit (BTU/lbm-°F);

(4) "Ti" means the collector loop inlet temperature measured near the outlet of the solar storage tank, stated in degrees Fahrenheit;

(5) "To" means the collector loop outlet temperature measured near the inlet to the solar storage tank, stated in degrees Fahrenheit;

(6) "t" means the frequency at which data readings are recorded, stated in hours.

(7) Meter sensors shall be installed on the collector loop as close to the water storage tank as practical and in accordance with the meter manufacturer's guidance; and

(8) Thermal sources using solar thermal technologies shall calculate Q, the useful thermal energy produced, by calculating the product of dm/dt, $c_{p,}$ the difference between To and Ti, and t, as stated in the formula below:

$$Q_g = (dm/dt)*c_p *(To - Ti) * t$$

(l) Large thermal sources, and small thermal sources that elect pursuant to (g)(1) above, using geothermal technologies shall calculate useful thermal energy as follows:

(1) "Q_g" means heat generated in the ground loop, stated in BTU's;

(2) "dm/dt" means mass flow measured near the outlet of the ground loop, stated in pounds per hour;

(3) "c_p" means specific heat of the working fluid, stated in BTU/lbm-°F;

(4) "t" means the frequency at which data readings are recorded, stated in hours;

(5) "Ti" means ground loop inlet temperature measured at the inlet to the ground loop, stated in degrees Fahrenheit;

(6) "To" means ground loop outlet temperature measured at the outlet from the ground loop, stated in degrees Fahrenheit;

(7) Bleed points, supplemental boilers and cooling towers shall be excluded from the calculation;

(8) Meter sensors shall be installed on the ground loop as close to the ground loop inlet and outlet as practical and in accordance with the manufacturer's recommendation; and

(9) Thermal sources using geothermal technologies shall calculate Q, the useful thermal energy produced, by calculating the product of dm/dt, c_p, the difference between To and Ti, and t, as stated in the formula below:

$$Q_g = (dm/dt) * c_p * (To - Ti) * t$$

(m) Large thermal sources, and small thermal sources that elect pursuant to (g)(1) above, using thermal biomass renewable energy technologies shall calculate useful thermal energy as follows:

(1) "Q_g" means the thermal energy generated from biomass, stated in Btu;

(2) "dm_{out}/dt" means mass flow metered upstream of distribution and downstream of parasitic loads, stated in pounds per hour;

(3) "h_{out}" means the specific enthalpy at the metering point determined by temperature data and, for superheated steam, by pressure data, stated in Btu's per pound;

(4) "dm_{in}/dt" means mass flow of water into the feedwater or condensate pumps, stated in pounds per hour;

(5) "h_{in}" means the specific enthalpy at the metering point which will be a function of the enthalpy of incoming condensate and make-up water prior to the first condensate or feedwater pumps, stated in Btu's per pound;

(6) "t" means the intervals at which readings are recorded, stated in hours;

(7) All metering systems shall measure boiler feedwater flow, pressure and temperature as close to the first feedwater pump inlet as possible, thereby excluding the deaerator;

(8) Metering for systems that produce hot water shall include sensors for temperature and hot water mass flow placed as close as possible to the boiler hot water distribution header inlet;

(9) Metering for systems that produce steam shall include sensors for temperature, pressure and steam flow placed as close as possible to the steam distribution header inlet and thereby prior to distribution to process loads;

(10) For saturated steam systems, pressure and temperature shall be measured to verify the absence of superheat at the measurement point;

(11) For superheated systems, both pressure and temperature measurements shall be required;

(12) Regardless of phase, the enthalpy under the measured conditions shall either be calculated using International Association for the Properties of Water and Steam (IAPWS) Industrial Formulation 1997 (IF97) formulas, August 2007 revision, http://www.iapws.org/relguide/IF97-Rev.pdf, as specified in Appendix B, or taken from IAPWS or derivative steam tables; and

(13) Thermal sources using thermal biomass renewable energy technologies shall calculate Q, the useful thermal energy produced, by calculating the product of dm_{out}/dt, (h_{out}), and t, and subtract from that number the product of dm_{in}/dt, h_{in} and t, as stated in the formula below:

$$Q_g = [dm_{out}/dt *(h_{out}) * t]-[dm_{in}/dt *(h_{in}) * t]$$

Puc 2506.05 Calculation of Certificates for Production of Useful Thermal Energy.

(a) Sources producing useful thermal energy, the independent monitor, or the designated representative shall report to GIS the useful thermal energy produced and the amount of RECs calculated pursuant to this part, as verified by the source's independent monitor.

(b) Useful thermal energy shall be expressed and reported in megawatt-hours where each 3,412,000 Btu's of useful thermal energy is equivalent to one megawatt-hour.

(c) Small thermal sources shall receive certificates based on the useful thermal energy produced as metered pursuant to Puc 2506.04(e) or (f) and discounted, as applicable, by the discount for meter accuracy pursuant to (e) below or as calculated pursuant to Puc 2506.04(h), (i), or (j).

(d) Large thermal sources shall receive certificates based on the useful thermal energy calculated pursuant to Puc 2506.04(e) or (f), discounted by the sum of the percentage discount for meter accuracy pursuant to (e) below and the percentage discount for operating energy or parasitic load and thermal storage losses pursuant to (f) below.

(e) The discount factor for meter accuracy referenced in (c) and (d) above shall be one of the following:

(1) If the meters used to measure useful thermal energy output comply with the accuracy of the European Standard EN 1434 as provided in Puc 2506.04(e)(1) or the accuracy pursuant to Puc 2506.04(f)(1), there shall be no meter accuracy discount; or

(2) If the meters used to measure useful thermal energy output do not comply with the accuracy of the European Standard EN 1434 as provided in Puc 2506.04(e)(1) or the accuracy pursuant to Puc 2506.04(f)(1), the applicable meter discount shall be the manufacturer's guaranteed accuracy of the meters used or the accuracy of the alternative method approved pursuant to Puc 2506.06.

(f) The discount factor for large thermal sources for operating energy or parasitic load and thermal energy losses referenced in paragraph (d) shall be one of the following:

(1) For sources using solar thermal technology, the discount factor shall be 3.0% of the useful thermal energy produced as measured pursuant to Puc 2506.04;

(2) For sources using geothermal technology, the discount factor shall be 3.6% of the useful thermal energy produced as measured pursuant to Puc 2506.04; or

(3) For sources using thermal biomass renewable energy technology, the discount factor shall be 2.0% of the useful thermal energy produced as measured pursuant to Puc 2506.04.

Puc 2506.06 Request for Alternative Method for Measuring Thermal Energy.

(a) A source shall not use an alternative metering method until that alternative method is approved by the commission.

(b) A source seeking approval of an alternative method shall provide the commission the following information:

(1) The name, mailing address, daytime telephone number, and e-mail address of the person requesting approval for the alternative method;

(2) The name and location of the source at which the alternative method will be implemented;

(3) A description of the metering method otherwise required by these rules and the reasons it cannot be used with the applicant's facility;

(4) A description of the proposed alternative method;

(5) Technical data and information demonstrating that the accuracy of the method otherwise required by these rules will be substantially achieved by the proposed alternative method, such data and information may include third party data such as product test results from independent test laboratories, performance data based on nationally recognized product test/certification programs, published resource data for use in calculations, and examples of the use of the method by other organizations for similar purposes; and

(6) A statement from a professional engineer licensed by the state of New Hampshire and in good standing of the meter accuracy rate that will be achieved by the alternative metering method and that the proposed alternative method is technologically sound.

(c) The commission shall approve an alternative metering method that satisfies the requirements of (b) above.