

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: October 6, 2014

AT (OFFICE): NHPUC

FROM: Barbara Bernstein 
Sustainable Energy Analyst

SUBJECT: DE 14-182, Littleton Regional Healthcare Application for Certification
as a REC Eligible Facility – Class I Thermal
Staff Recommends that Interim Eligibility be Granted

TO: Chairman Amy L. Ignatius
Commissioner Robert R. Scott
Commissioner Martin P. Honigberg
Debra A. Howland, Executive Director and Secretary

CC: Jack K. Ruderman, Director of the Sustainable Energy Division 
David J. Shulock, Staff Attorney

Summary

On July 3, 2014, the Commission received an application filed by Yeaton Associates, Inc. (Yeaton Associates) on behalf of Littleton Regional Healthcare. Yeaton Associates is requesting interim Class I Thermal renewable energy certificate eligibility¹ for Littleton Regional Healthcare's 3.433 megawatt (MW) equivalent,² thermal biomass facility. A request for additional information was sent to Yeaton Associates on August 15, 2014; a response was received August 22, 2014.

Staff has reviewed the Littleton Regional Healthcare certification request and has determined that the project meets the eligibility requirements under RSA 362-F:4, I(e), as an interim Class I Thermal facility and complies with the New Hampshire Code of Administrative Rules Puc 2500. Staff recommends the Commission grant interim approval for the Littleton Regional Healthcare thermal biomass facility as a Class I Thermal renewable energy source, effective as of January 15, 2014.³ This review reflects recommended changes to the interim Proposed Amendments to Puc 2500. Once the 2500 Rule is final Littleton Regional Healthcare intends to purchase appropriate meters and obtain Commission final approval to generate thermal RECs.

¹ Pursuant to Proposed Amendments to Puc 2500 as contemplated by Order No. 25,678 (June 19, 2014) issued in Docket No. DRM 14-095 effective as of July 23, 2014.

² Littleton Regional Healthcare has two boilers. The gross output is 150 Boiler Horsepower (BHP) and 200 BHP. Megawatts = BHP x 33,475 / 3,412,000.

³ The facility began operation January 15, 2014.

Analysis

To qualify as a facility eligible to produce useful thermal energy, Puc 2505.02 (d)⁴ requires the source to provide the following:

- 1) *The name, address and contact information of the applicant:* The application was filed by Wayne G. Fillion, P.E., Yeaton Associates, Inc., 66 Jackson Street, Littleton, NH 03561 on behalf of Littleton Regional Healthcare, 600 St. Johnsbury Road, Littleton, NH 03561. The primary contact for Littleton Regional Healthcare is Henri Wante, Director of Facilities.
- 2) *The name and location of the facility:* Littleton Regional Healthcare is located at the address listed in 1) above.
- 3) *A description of the equipment and meters used to measure useful thermal energy including the manufacturer, model, placement of the sensors in the energy production system, temperature operating range, flow operating range, thermal energy operating range, and pressure operating range, if applicable.*

System or Component	Product Name	Manufacturer/Model
Boiler feedwater mass flow rate	CMAG/EMAG-11 Electromagnetic flow meter converter	Central Station Steam Company Model Size 2 inches
Supply Steam Pressure Sensor/Transmitter	Ashcroft A2X Explosion Flame Proof Pressure Transmitter	Ashcroft Model # A2XBN0242C2300G- XCY
Total System Accuracy	Not Applicable for interim period.	

Attachment 3.4 of the application provides details on the assumptions and calculations for the interim calculations of useful thermal energy and the megawatt hours produced.

- 4) *A description of the manufacturer's recommended methods and frequency for meter calibration; (SEE Attachment 3-3).* Until the Puc 2500 rules are finalized, Littleton Regional Healthcare is using the interim alternative metering method.
- 5) *The rated thermal capacity of the facility;* The gross output of the two boilers at Littleton Regional Healthcare are 150 BHP (Boiler Horsepower) and 200 BHP.

 $150 \text{ BHP} = 1.47 \text{ MW} \quad 200 \text{ BHP} = 1.96 \text{ MW} \quad 1.47 \text{ MW} + 1.96 \text{ MW} = 3.433 \text{ MW}$
- 6) *The GIS facility code.* The Littleton Regional Healthcare thermal biomass project is registered as account number 15514 in the NEPOOL-GIS system. The NEPOOL-GIS unit identification code for the Littleton Regional Healthcare useful thermal capacity has been verified as NON 41354.
- 7) *The name, license number, if applicable, and contact information of the installer of the thermal biomass facility, solar thermal technology or geothermal system, or a*

⁴ Initial Proposal 4-04-14.

statement that the equipment was installed directly by the owner. The application lists the installer listed as Daniel Hebert, Inc., (State of NH Corporate ID 12463), 18 Pleasant Street, Colebrook, NH 03576.

- 8) *The name and contact information of the seller of the thermal equipment.* The General Contractor who constructed the biomass boiler facility at Littleton Regional Hospital is: Daniel Hebert, Inc., 18 Pleasant Street, Colebrook, NH 03576. The office phone number is (603) 237-4454. The manufacturer of the boiler system and the seller of the boiler system is Messersmith Manufacturing Inc., 2612 F Road, Bark River, MI 49807; phone number (906) 466-9010.
- 9) *The name and contact information of the independent monitor of the facility.* The application lists Wayne G. Fillion, Yeaton Associates, as the independent monitor.⁵
- 10) *An attestation that the project meets the metering requirements of Puc 2506 and the meters were installed according to manufacturer's recommendation.* Affidavits were provided by Henri Wante, Director of Facilities, Littleton Regional Healthcare and Wayne G. Fillion, P.E.
- 11) *The manufacturer's guaranteed accuracy of the meters used to calculate thermal energy output.* Until the Puc 2500 rules are finalized, Littleton Regional Healthcare is using the interim alternative metering method.
- 12) *For small thermal sources a description of the methodology used to calculate the useful thermal energy pursuant to Puc 2506.04 including the equations and values for the variables in the equations.* Not applicable.
- 13) *For large thermal sources, a description of the methodology used to calculate the useful thermal energy pursuant to Puc 2506.04.* Not applicable.
- 14) *The discount factors for meter accuracy pursuant to Puc 2506.05(e) to be applied for REC calculations, if applicable.* Not applicable.
- 15) *The discount factor for operating energy and thermal energy losses pursuant to Puc 2506.05(f) to be applied for REC calculations, if applicable, or a detailed description of the method for determining a discount factor for operating energy and thermal energy losses, if applicable.* Not applicable.
- 16) *If a thermal biomass facility, the following documentation, as applicable.* On April 28, 2014 the Department of Environmental Services (DES) provided a letter to the Commission recommending approval to Littleton Regional Healthcare as a Class I Thermal renewable energy source eligible to generate RECs.
 - a. *For units with a heat input capacity of 100 MMBtu/hour or greater, the nitrogen oxides (NO_x) emission rate in lb/MMbtu, quarterly average.* By

⁵ The Commission approved Mr. Yeaton as an independent monitor of thermal RECs in DE 14-173, July 15, 2014.

definition, “Thermal biomass renewable energy technologies” requires units rated less than 100 MMBtu/hr gross heat input to meet best management practices (BMP) as established by DES for control of NOx. DES herein establishes BMP as conducting boiler tune-ups annually and conducting combustion efficiency testing initially and annually demonstrating results equal to or greater than 99%.⁶

*b. For units with a heat input capacity of 3 MMBtu/hour or greater, the particulate matter emission rate in lb/MMBtu. A PM emission test has been performed for Littleton Regional Healthcare, and the test results have been reported in writing to DES. The emission test was performed for PM in accordance with the pre-test protocol reviewed by DES. The results of the emission test indicate the actual PM emission rate in lb/MMBtu meets the required 0.10 lb/MMBtu.*⁷

*c. A description of pollution control equipment or proposed practices for compliance with NOx and particulate matter requirements. Permit TP-0127 issued by DES contains pollution control equipment (electrostatic precipitator) operation and maintenance requirements.*⁸

*d. For units with a heat input capacity of less than 100 MMBtu/hour, 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 United States Forest Service, Western Forestry Leadership Coalition by RSG, Inc., May 6, 2010, and available at http://www.wflccenter.org/news_pdf/361_pdf.pdf. DES anticipates that Littleton Regional Healthcare will be able to meet ongoing BMP annually.*⁹

*e. ~~Proof that a copy of the completed application has been filed with the department.~~*¹⁰

17) *All other necessary regulatory approvals that are related to REC requirements, including any reviews, approvals or permits required by the department. On April 28, 2014 the DES provided a letter to the Commission recommending approval to Littleton Regional Healthcare as a Class I Thermal renewable energy source eligible to generate RECs.*

18) *A statement as to whether the facility has been certified under another non-federal jurisdiction’s renewable portfolio standards and proof thereof. The Littleton Regional Hospital biomass facility has not been certified under another non-federal jurisdiction’s renewable portfolio standard.*

⁶ DES letter from Joseph T. Fontaine, Air Resources Division, DES to Debra Howland, Executive Director, PUC, dated April 28, 2014.

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

¹⁰ Staff has determined that this stipulation is not relevant to the application. DES provides a letter with the application that verifies the facility has met all emissions requirements and established best management practices. The final rule will reflect this revision.

- 19) *A description of how the facility's output is reported to the GIS, including the name and contact information of the independent monitor.* The application lists the independent monitor as Wayne G. Fillion, 66 Jackson Street, Littleton, NH 03561.
- 20) *The name and telephone number of the facility's operator, if different from the owner.* The facility is operated by Littleton Regional Healthcare.
- 21) *Such other information as the applicant wishes to provide to assist in classification of the facility.* The applicant provided ample information to complete the evaluation.
- 22) ~~*For thermal biomass renewable energy technologies, the manufacturer's rated thermal efficiency.*~~¹¹
- 23) *For a solar thermal facility, the Solar Rating and Certification Corporation (SRCC) rating of the system.* Not applicable.
- 24) *For a geothermal facility, the coefficient of performance and the energy efficiency ratio of the system.* Not applicable.
- 25) ~~*An attestation by the applicant that the project is installed and operating in conformance with any applicable building codes.*~~¹²
- 26) *An affidavit by the owner attesting to the accuracy of the contents of the application.* An affidavit signed by Henri Wante, Director of Facilities, Littleton Regional Healthcare, was provided with the application.
- 27) *An affidavit by a professional engineer that is licensed in New Hampshire and in good standing attesting that the renewable energy source meets the requirements of this part.* An affidavit signed by Wayne G. Fillion, P.E. was provided with the application. Mr. Fillion is licensed as an engineer (No. 7427) in the State of New Hampshire.

For thermal sources requesting eligibility to be issued certificates for the period January 1, 2014 until 60 days following the effective date of this part, the application shall include the following information for that interim period which information shall be submitted no later than 60 days following the effective date of this part:

1. *If requesting eligibility to be issued thermal certificates, the information required under Puc 2505.02(d), except as outlined in Puc 2505.02(e)(2) See above.*
2. *In lieu of the information required by Puc 2505.02 (d) (11) through (13), a thermal source may submit a detailed explanation of the methodology used to measure and calculate thermal energy and an attestation by a professional engineer that is licensed in New Hampshire and in good standing that the methodology for measuring useful thermal*

¹¹ Staff has determined that this information is typically not available. The final rule will reflect this revision.

¹² Staff has determined that this requirement is not applicable and the final rule will reflect this revision.

energy and calculating certificates is sound. Attachment 3.4 of the applications provided the Interim Alternate Metering Method for Useful Thermal Energy for Littleton Regional Healthcare.

Recommendation

Staff has reviewed the Littleton Regional Hospital application for Class I Thermal certification of its biomass facility, and can affirm it is complete pursuant to New Hampshire Code of Administrative Rules Puc 2500. Staff recommends that the Commission grant interim approval for the Littleton Regional Healthcare thermal biomass facility as a Class I Thermal renewable energy source, effective as of January 15, 2014.