

THE STATE OF NEW HAMPSHIRE

AR 52

CHAIRMAN
Martin P. Honigberg

COMMISSIONERS
Robert R. Scott
Kathryn M. Bailey

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PUBLIC UTILITIES COMMISSION

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April 14, 2017

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, NH 03301

Her Excellency and Honorable Councilors:

REQUESTED ACTION

Authorize the New Hampshire Public Utilities Commission (Commission) to award grant funds in the amount of \$300,000 to the University of New Hampshire, Vendor #177867, to install and operate a wood chip biomass boiler district heating system to serve buildings of the University of New Hampshire's Thompson School of Applied Science, from Governor and Council approval through June 30, 2018. Funding is 100% Renewable Energy Funds, a non-lapsing special fund continually appropriated to the Commission pursuant to RSA 362-F:10.

02-81-81-811510-54540000 Renewable Portfolio Standard 362-F:10

	FY2017	Total
010-081-54540000-073-500579 Grants to Institutions – State	\$300,000.00	\$300,000.00

EXPLANATION

Pursuant to RSA 362-F:10, the Commission is charged with administering the Renewable Energy Fund (REF), the purpose of which is to support thermal and electrical renewable energy initiatives. On September 30, 2016, the Commission issued a Request for Proposals (RFP) pursuant to RSA 362-F:10 XI that requires the Commission to issue, on an annual basis, an RFP for renewable energy projects in the commercial and industrial sectors funded by grants from the REF.

The Commission received seven (7) proposals requesting a total of approximately \$1.9 million in funds in response to the RFP. The University of New Hampshire (UNH) and five (5) others have been selected to receive a total of \$1,272,425 in this funding round. Attachment A provides additional information on the grant review and award process and Attachment B provides a summary of all 2016 competitive grant awards.

G&C 5/3/2017

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With these funds, the University of New Hampshire will install and operate a wood chip biomass boiler district heating system to serve five buildings of the UNH Thompson School of Applied Science. The boiler will replace an aging heating system and provide hands-on educational opportunities for the Forest Technology program which operates under the Thompson School. The project's technical and funding details are described in Attachment C, Project Specific Facts and Figures.

The grant is contingent on sufficient REF funds being available upon the effective date of the grant agreement. These funds have already been allocated to this RFP round, and are being held in the fund. In the event that the REF funds are insufficient or are no longer available, General Funds will not be requested to support this program.

Respectfully submitted,



Martin P. Honigberg
Chairman

Attachments:

Agreement with Exhibits

Attachment A - 2016 Grant Review Process

Attachment B - Table of 2016 REF Grant Awards

Attachment C- Project Specific Facts and Figures

ATTACHMENT A – 2016 GRANT REVIEW PROCESS

The Public Utilities Commission (PUC) issued a Request for Proposals (RFP) on September 30, 2016 for renewable energy projects in the commercial and industrial sectors which would be eligible to generate Class I, Class I Thermal, or Class IV renewable energy certificates (RECs). The RFP was generally similar to that issued in the prior year. The RFP required that the project create certain classes of renewable energy certificates, which would be available for use by electricity providers for compliance with the renewable portfolio standard requirements in New Hampshire. Pursuant to RSA 362-F:10, the RFP is funded with monies from the Renewable Energy Fund and issued on an annual basis.

The RFP was widely circulated electronically to members of the Energy Efficiency and Sustainable Energy Board (EESSE Board), regular attendees at EESSE Board meetings, additional stakeholders known to have an interest in energy policy and programs, the Granite State Hydropower Association, and the NH Municipal Association. The RFP was posted on the PUC website for the full submission period, and was advertised in the New Hampshire Union Leader on October 3, 4, and 5, 2016. All responses were due by October 28, 2016. The Commission received seven (7) proposals requesting a total of \$1.87 million in grant funds for projects with a combined estimated project value of \$8.79 million.

The PUC employed a two-tier grant review process to evaluate the proposals. The initial review team consisted of three members including Stephen Eckberg (PUC Sustainable Energy Division), Joe Fontaine (DES Air Resources Division) and Rick Minard (NH Office of Energy and Planning)¹. The second tier review team consisted of Public Utilities Commissioners including: Chairman Martin Honigberg; Commissioner Robert Scott; and Commissioner Kathryn Bailey.

The initial review team scored all proposals using the scoring criteria set forth in the RFP and those requirements set forth in NH Code of Administrative Rules Puc 2508.02 (b) and (c). The team scored all proposals using the pre-published scoring criteria developing a score for each from 0-100 points. Following the initial scoring, the team interviewed six (6) applicants. The review team assigned values for the factors outlined in the RFP which resulted in the final scores; ranks; and funding recommendations.

The initial review team met with the Commissioners to brief them on the committee's recommendations. The Commissioners were provided with project descriptions for those projects recommended for funding and had an opportunity to ask questions of members of the initial review team. The Commissioners approved the review team's recommendations to award grant funds for six (6) renewable energy projects totaling \$1,272,425.

¹ Oversight was provided by Karen Cramton, Director of the PUC's Sustainable Energy Division.

**Attachment B
Proposed Renewable Energy Project Competitive Grant Awards 2016**

	Town/City	Technology (Capacity)	Total Project Costs	Proposed Grant Funding	Annual Renewable Energy Credits & Type	Cost Effectiveness (Grant \$ / 10yrs-REC)	Contract End Date
Sugar River Power, LLC	Claremont	Hydro Electric (1,350 kW)	\$739,425	\$169,425	5,418 Class IV (or Class I)	\$3.13	6/30/2018
University of New Hampshire	Durham	Biomass Thermal	\$1,260,000	\$300,000	1,600 Class I Thermal	\$18.75	6/30/2018
Bantam Realty Trust, L.L.C.	Keene	Biomass Thermal	\$330,700	\$150,000	756 Class I Thermal	\$19.79	6/30/2018
Jaffrey-Rindge Cooperative School District (SAU 47)	Jaffrey	Biomass Thermal	\$800,000	\$280,000	1,125 Class I Thermal	\$33.33	6/30/2018
Contoocook Hydro, LCC	Peterborough	Hydro Electric (100 kW)	\$259,250	\$173,000	710 Class IV (or Class I)	\$24.37	6/30/2018
Merriamack County	Boscawen	Biomass Thermal	\$2,717,415	\$200,000	2,784 Class I Thermal	\$7.18	6/30/2018
TOTAL			\$6,106,790	\$1,272,425			

Attachment C
University of New Hampshire Thompson School
Facts and Figures

The University of New Hampshire in Durham will construct a new Processed Dry Chip (PDC) biomass heating system to provide heat for buildings associated with the Thompson School of Applied Sciences. The new district heating system will serve five buildings totaling 125,000 ft², offer a cost-effective solution to an aging heat system replacement, and provide both an opportunity to prove a local energy technology and hands-on educational opportunities for the Forest Technology program which operates under the Thompson School. The heating system will be an active part of the Forest Technology program which actively managed UNH-owned woodlands that are expected to provide 55% of the anticipated 540 tons of PDC fuel needs for the plant.

Technical Specifications:

Nameplate Rating: Power capacity of 540kW, with expected annual generation of 1,600 MWh or 5,460 mmBtu.

Grant Cost Effectivenessⁱ : \$18.75/REC

Funding Analysis:

Total Project Cost: \$1,260,000
Leveraged Funds: \$ 926,000
Grant Amount: \$ 300,000 (approximately 24% of total project cost)
Payback Periodⁱⁱ 13.4 years (based on Total Project Cost and Generation Value)
9.8 years (based on Leveraged Funds and Generation Value)

Financial and Environmental Benefits:

Energy Generation: Thermal equivalent of 39,500 gallons fuel oil
Generation Valueⁱⁱ: \$40,000 (RECs) + \$54,000 (Fuel) = \$94,000
Life Expectancy: 20+ years
CO₂ Avoided: 399 tons/year

Renewable Portfolio Standard RSA 362-F:1 Criteria:

- Generates 1,600 Class I Thermal renewable energy certificates (RECs) per year
- Supports fuel diversity & keeps energy dollars in state
- Builds in-state research and sector workforce capacity
- Proves local energy technology
- Allows UNH to move to heating fuel with a stable, predictable market
- Reduces the amount of greenhouse gases, nitrogen oxides and particulate matter emissions; thereby improving air quality and public health

ⁱ The PUC used a metric defined as the grant amount divided by the total number of RECs over ten (10) years of energy production as a key criteria in evaluating and choosing grantees.

ⁱⁱ Simple payback calculated based only on total project costs (and leveraged funds) and generation value for ease of comparison among all project proposals. Alternative Compliance Payment value of Class I Thermal RECs = \$25 therefore 1,600 RECs / year = \$40,000 Generation Value. Fuel savings value calculated using \$2.50/gallon fuel oil versus \$120/ton PDC.

COOPERATIVE PROJECT AGREEMENT

between the

STATE OF NEW HAMPSHIRE, **Public Utilities Commission**

and the

University of New Hampshire of the UNIVERSITY SYSTEM OF NEW HAMPSHIRE

- A. This Cooperative Project Agreement (hereinafter "Project Agreement") is entered into by the State of New Hampshire, **Public Utilities Commission**, (hereinafter "State"), and the University System of New Hampshire, acting through **University of New Hampshire**, (hereinafter "Campus"), for the purpose of undertaking a project of mutual interest. This Cooperative Project shall be carried out under the terms and conditions of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, except as may be modified herein.
- B. This Project Agreement and all obligations of the parties hereunder shall become effective on the date the Governor and Executive Council of the State of New Hampshire approve this Project Agreement ("Effective date") and shall end on **6/30/18**. If the provision of services by Campus precedes the Effective date, all services performed by Campus shall be performed at the sole risk of Campus and in the event that this Project Agreement does not become effective, State shall be under no obligation to pay Campus for costs incurred or services performed; however, if this Project Agreement becomes effective, all costs incurred prior to the Effective date that would otherwise be allowable shall be paid under the terms of this Project Agreement.
- C. The work to be performed under the terms of this Project Agreement is described in the proposal identified below and attached to this document as Exhibit A, the content of which is incorporated herein as a part of this Project Agreement.

Project Title: **Thompson School Biomass District Heating System Project**

- D. The Following Individuals are designated as Project Administrators. These Project Administrators shall be responsible for the business aspects of this Project Agreement and all invoices, payments, project amendments and related correspondence shall be directed to the individuals so designated.

State Project Administrator

Name: Eunice Landry
 Address: NH Public Utilities Commission
 21 S. Fruit St., Suite 10
 Concord, NH 03301-2429
 Phone: 603-271-2431

Campus Project Administrator

Name: Karen Jensen
 Address: University of New Hampshire
 Sponsored Programs Administration
 51 College Road
 Durham, NH 03824
 Phone: 603-862-2172

- E. The Following Individuals are designated as Project Directors. These Project Directors shall be responsible for the technical leadership and conduct of the project. All progress reports, completion reports and related correspondence shall be directed to the individuals so designated.

State Project Director

Name: Karen Cramton
 Address: NH Public Utilities Commission
 21 S. Fruit St., Suite 10
 Concord, NH 03301-2429
 Phone: 603-271-6012

Campus Project Director

Name: Adam Kohler
 Address: UNH Energy Office
 6 Leavitt Lane
 University of New Hampshire
 Durham, NH 03824
 Phone: 603-862-5491

F. Total State funds in the amount of **\$300,000** have been allotted and are available for payment of allowable costs incurred under this Project Agreement. State will not reimburse Campus for costs exceeding the amount specified in this paragraph.

Check if applicable

Campus will cost-share _____ % of total costs during the term of this Project Agreement.

Federal funds paid to Campus under this Project Agreement are from Grant/Contract/Cooperative Agreement No. _____ from _____ under CFDA# _____. Federal regulations required to be passed through to Campus as part of this Project Agreement, and in accordance with the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, are attached to this document as Exhibit B, the content of which is incorporated herein as a part of this Project Agreement.

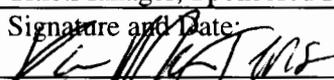
G. Check if applicable

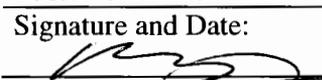
Article(s) _____ of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002 is/are hereby amended to read:

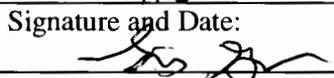
H. State has chosen **not to take** possession of equipment purchased under this Project Agreement.
 State has chosen **to take** possession of equipment purchased under this Project Agreement and will issue instructions for the disposition of such equipment within 90 days of the Project Agreement's end-date. Any expenses incurred by Campus in carrying out State's requested disposition will be fully reimbursed by State.

This Project Agreement and the Master Agreement constitute the entire agreement between State and Campus regarding this Cooperative Project, and supersede and replace any previously existing arrangements, oral or written; all changes herein must be made by written amendment and executed for the parties by their authorized officials.

IN WITNESS WHEREOF, the University System of New Hampshire, acting through the **University of New Hampshire** and the State of New Hampshire, **Public Utilities Commission** have executed this Project Agreement.

**By An Authorized Official of:
University of New Hampshire**
Name: Karen M. Jensen
Title: Manager, Sponsored Programs Administration
Signature and Date:  4/11/17

**By An Authorized Official of:
NH Public Utilities Commission**
Name: Martin P. Honigberg
Title: Chairman
Signature and Date:  4/12/17

**By An Authorized Official of: the New
Hampshire Office of the Attorney General**
Name: Brian B. Vanaman
Title: AAG
Signature and Date:  4/19/17

**By An Authorized Official of: the New
Hampshire Governor & Executive Council**
Name: _____
Title: _____
Signature and Date: _____

EXHIBIT A

- A. Project Title:** UNH Thompson School Biomass District Heating System
- B. Project Period:** May 3, 2017 - June 30, 2018
- C. Objectives:** See Scope of Work
- D. Scope of Work:** This project consists of constructing a new biomass-fired heating system for the Thomson School of Applied Sciences at the University of New Hampshire in Durham, NH. The new district heating system will serve five (5) buildings totaling approximately 125,000 sq.ft. Woodchips will be burned in a biomass-fired boiler in a new central plant. Heating hot water will be distributed to the five (5) buildings via a combination of new and existing underground piping.
- E. Deliverables Schedule:** Campus agrees to prepare and submit progress reports to the State, in a form and manner prescribed by the State. The first report will cover activities related to project design, development and any construction activities from the date of contract approval through September 30, 2017 with the report due November 1, 2017. The second report will cover the period October 1, 2017 through December 31, 2017 with the report due February 1, 2018. The third report will cover the period January 1, 2018 through March 31, 2018 with the report due May 1, 2018. The fourth report will cover the period April 1, 2018 through June 30, 2018 with the report due on August 31, 2018. All reports thereafter will be due on February 1st after the end of the preceding calendar year continuing for a period of ten (10) years. Any activities or benefits that occurred as a result of the grant not included in the scope of services should also be noted in reports. All reports submitted after the installation of the system will provide data on the amount of biomass consumed and thermal energy produced (annual MMBTU). The Campus also agrees to submit a completed application to the NH Public Utilities Commission to become eligible to produce Renewable Energy Certificates (RECs) and to market such RECs to electricity providers in New Hampshire.
- F. Budget and Invoicing Instructions:** Campus will submit invoices to State on regular Campus invoice forms no more frequently than monthly and no less frequently than quarterly. Invoices will be based on actual project expenses incurred during the invoicing period, and shall show current and cumulative expenses. State will pay Campus within 30 days of receipt of each conforming invoice. Campus will submit its final invoice not later than 60 days after the Project Period end date. Invoices will be submitted to: Business Office, NH Public Utilities Commission, 21 S. Fruit St., Suite 10, Concord, NH 03301-2429 with a CC to Director, Sustainable Energy Division at the same address.

Budget Items	State Funding	Cost Sharing (if required)	Total
1. Salaries & Wages	0	0	0
2. Employee Fringe Benefits	0	0	0
3. Travel	0	0	0
4. Supplies and Services	0	0	0
5. Equipment	300,000	0	300,000
6. Facilities & Admin Costs	0	0	0
Subtotals	300,000	0	300,000
Total Project Costs:			300,000