



DE 14-201  
Ground Energy Support LLC  
2 Washington Street, Suite 217  
Dover NH 03820  
(603) 867-9762  
www.groundenergy.com

July 23, 2014

Debra Howland  
Executive Director  
State of New Hampshire  
Public Utilities Commission  
21 S. Fruit St, Suite 10  
Concord, NH 03301-2429

NHPUC 24 JUL '14 PM 12:09

Ms. Howland:

Please find enclosed my application become registered as an Independent Monitor for the verification of useful thermal energy produced from eligible geothermal systems.

As I am neither a Professional Engineer nor an Accredited Installer through the International Ground Source Heat Pump Association (IGSPHA), I have also enclosed a Waiver for proposed Puc 2505.09(d) and ask the Commission to consider my professional qualifications as an alternative method in assessing my ability to verify the useful thermal energy from geothermal sources.

As per the instructions, I have enclosed the originals and two copies and will forward electronic versions to yourself and Ms. Bernstein.

Please let me know if you have any questions or need any additional information.

Respectfully,

A handwritten signature in blue ink, appearing to read "J. Matthew Davis".

J. Matthew Davis, Ph.D.  
Vice President, CTO



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



APPLICATION TO QUALIFY AS AN INDEPENDENT MONITOR

**TO VERIFY ELECTRICITY OR USEFUL THERMAL ENERGY PRODUCTION FROM ELIGIBLE CUSTOMER-SITED SOURCES\***

This independent monitor application must be filed with the Executive Director of the New Hampshire Public Utilities Commission (Commission). \*\* *The completed original application, as well as two copies and a cover letter requesting certification should be sent to:*

Debra Howland  
Executive Director  
State of New Hampshire  
Public Utilities Commission  
21 S. Fruit St, Suite 10  
Concord, NH 03301-2429

An electronic version of the docket filing should be submitted to [executive.director@puc.nh.gov](mailto:executive.director@puc.nh.gov) and [barbara.bernstein@puc.nh.gov](mailto:barbara.bernstein@puc.nh.gov). Contact Barbara Bernstein by email or phone 603-271-6011 with questions.

***Any omissions and/or deficiencies which need to be corrected must be completed in a timely manner or the Commission may close the application process without prejudice.***

\* Pursuant to New Hampshire Administrative Code [Puc 2505.09](#)

\*\* Pursuant to [Puc 202](#)

***Please complete the following:***

Applicant Name: J. Matthew Davis

Business Name: Ground Energy Support LLC

Mailing Address 1: 2 Washington St

Mailing Address 2: Suite 217

Town/ City: Dover

State: NH

Zip Code: 03820

Telephone: (603) 867-9762

Cell: (603) 867-9762

email: [mdavis@groundenergysupport.com](mailto:mdavis@groundenergysupport.com)










<b>2505.09</b>	<b>Independent Monitors</b>
2505.09(a)	<i>An independent monitor shall verify the <u>electricity</u> production of a customer-sited source or the production of <u>useful thermal energy</u> from an eligible source and report such production and REC calculation to the GIS.</i>
2505.09(b)	<i>A distribution utility shall be eligible to serve as an independent monitor for customer-sited sources and sources producing useful thermal energy within its service territory, provided that the distribution utility employs one or more persons to perform monitoring tasks who meet the qualifications specified in paragraph (c) or (d). (See below).</i>

As **ATTACHMENT A**, please provide a copy of the license issued by the state of New Hampshire or such other qualifying certification as may be applicable.

<b>Electrical Production Independent Monitors</b>		
2505.09(c)	<i>To qualify as an independent monitor who verifies <b>electrical production</b> please indicate which of the following apply to the applicant:</i>	
2505.09(c)(1)	An electrician licensed by the state of New Hampshire and in good standing.	<input type="checkbox"/>
2505.09(c)(2)	A professional engineer licensed by the state of New Hampshire and in good standing.	<input type="checkbox"/>
2505.09(c)(3)	A certified building analyst professional or a certified mechanical professional as certified by the Building Performance Institute, Inc. of Malta, New York.	<input type="checkbox"/>
2505.09(c)(4)	A certified energy manager as certified by the Association of Energy Engineers.	<input type="checkbox"/>
2505.09(c)(5)	A home energy rater as certified by Residential Energy Services Network (RESNET)	<input type="checkbox"/>
2505.09(c)(6)	Certified as an independent monitor under a renewable portfolio standard program in another state.	<input type="checkbox"/>

<b>Useful Thermal Energy Independent Monitors</b>		
2505.09(d)	<i>To qualify as an independent monitor who verifies <b>useful thermal energy production</b> please indicate which of the following apply to the applicant:</i>	
2505.09(d)(1)	A professional engineer licensed by the State of NH and in good standing.	<input type="checkbox"/>
2505.09(d)(2)	<b>For verification of useful thermal energy from solar thermal sources</b> , a North American Board of Certified Energy Practitioners (NABCEP) Certified Solar Heating Installer	<input type="checkbox"/>
2505.09(d)(3)	<b>For verification of useful thermal energy from geothermal sources</b> an International Ground Source Heat Pump Association (IGSHPA) Accredited Geothermal Installer <b>** See attached Request for Waiver**</b>	<input checked="" type="checkbox"/>



Provide your initials as an indication that you have read the following as it pertains to Independent Monitors and agree to uphold the rule.		Initials
2505.09(a)	An independent monitor shall verify the production of a customer-sited source or the production of useful thermal energy from an eligible source and report such production and REC calculations to the GIS. Such a customer-sited source or a source producing useful thermal energy shall either retain the services of an independent monitor directly or, if participating in aggregation pursuant to Puc 2506, through an aggregator.	
2505.09(b)	A distribution utility that is a distribution company shall be eligible to serve as an independent monitor for customer-sited sources and sources producing useful thermal energy within its service territory, provided that the distribution utility employs one or more persons to perform monitoring tasks who meet the qualifications specified in paragraph (c) or (d).	
2505.09(g)	No customer-sited source or source producing useful thermal energy shall use an independent monitor: <ul style="list-style-type: none"> <li>• who is a member of the immediate family of the owner of the source, or,</li> <li>• who holds a direct or indirect ownership interest in the source, or,</li> <li>• who sold or installed the equipment used by the source.</li> </ul>	
2505.09(h)	The fact that a provider of electricity installed the customer-sited source or source producing useful thermal energy shall not be a disqualifying relationship.	
2505.09(i)	<i>The duties of the independent monitor shall be:</i>	Initials
2505.09(i)(1)	To perform an initial inspection of source's meter for accuracy and capability to measure the electricity or useful thermal energy produced, unless the meter is owned by a distribution utility that has already inspected it pursuant to <a href="#">Puc 305</a> .	
2505.09(i)(2)	To measure quarterly the source's electricity or useful thermal energy production or displacement used to qualify for certificates pursuant to the GIS operating rules.	
2505.09(i)(3)	To report the production of electricity or useful thermal energy from the source and the REC calculation to the customer and the GIS quarterly in accordance with the GIS operating rules.	
2505.09(j)	An independent monitor shall not receive compensation for monitoring services that is a function of the number of certificates issued to any source using the independent monitor.	
2505.09(k)	An independent monitor shall provide the commission with the notice prior to discontinuing services as a monitor.	

Describe your rates for Renewable Energy Source Eligibility for Independent Monitoring (add lines as needed).

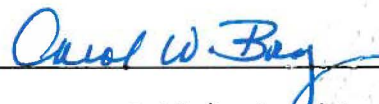
Description:	Unit	Rate
Large geothermal systems using heat meters. Assistance with meter specification, on-site inspection, assistance with application.	Per hour	\$95.00
Small geothermal systems using runtime option. On-site inspection of meter, assistance with application.	Flat fee	\$120.00
Fuel surcharge for site inspections in Cheshire, Sullivan, Grafton, and Carroll Counties	Flat fee	\$25.00
Quarterly reporting of data to NEPOOL-GIS	Annual	\$60

#### AFFIDAVIT

The undersigned applicant declares under penalty of perjury that contents of this application are accurate.

Applicant's Signature  Date July 23 2014  
Applicant's Typed Name John Matthew Davis

Subscribed and sworn before me this 23<sup>rd</sup> Day of July (month) in the year 2014  
County of Strafford State of New Hampshire



Notary Public/Justice of the Peace

My Commission Expires January 29, 2019

**APPLICATION FOR A WAIVER of certification as  
IGSHPA Accredited Installer to serve as INDEPENDENT MONITOR for geothermal  
sources.**

**REQUEST FOR REVIEW:**

Pursuant to Puc 201.05(c), the applicant, John Matthew Davis, hereby requests a waiver from proposed Puc 2505.09(d) to enable the consideration of my application to become registered as an Independent Monitor to verify useful thermal energy production from geothermal sources.

Proposed Puc 2500 is currently in the PUC rulemaking process (Docket DRM 14-095). Puc Order 12,678 issued on June 19, 2014 ordered that:

Commission Staff shall accept applications for certification of thermal REC-eligible facilities, and shall base recommendations for approval upon proposed Puc 2505.02(e)(2), proposed Puc 2506.04, and proposed Puc 2506.06 until such time as a final rule is adopted by the Commission.

Proposed Puc 2506.04(b) states that Sources shall retain an independent monitor to verify the useful thermal energy produced.

Because an independent monitor to verify thermal energy is not included in Puc 2500, the proposed Puc 2505.09(a) is the effective rule for the Commission in approving applications for independent monitors to report thermal energy production, as further indicated by the Commission's approval of Mr. Wayne Fillion as independent monitor on July 15, 2014.

Proposed Puc 2505.09(d) specifies that qualifications of Independent Monitors who verify the production of useful thermal energy are either (1) a Professional Engineer licensed in the State of New Hampshire and in good standing<sup>1</sup>; or (2) an Accredited Geothermal Installer certified by the International Ground Source Heat Pump Association<sup>2</sup>.

**STANDARD OF REVIEW:**

Puc 201.05 states that the commission shall waive the provisions of any of its rules if the commission finds that the waiver serves the public interest<sup>3</sup> and will not disrupt the orderly and efficient resolution of matters before the commission<sup>4</sup>.

**Serves the Public Interest**

The criterion for determining public interest is either that Compliance with the rule would be onerous or inapplicable given the circumstances of the affected person; or the purpose of the rule would be satisfied by an alternative method proposed.

We suggest that the purpose of the rule is to identify individuals that have sufficient professional training and experience to determine that metering equipment is properly installed. Such individuals should have knowledge of both geothermal heat pump systems and the metering technologies specified in proposed Puc 2506.04. We propose that the purpose of the rule would be satisfied by the commission considering

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<sup>1</sup> Proposed Puc 2505.09(d)(1)

<sup>2</sup> Proposed Puc 2505.09(d)(3)

<sup>3</sup> Puc 201.05 (a)(1)

<sup>4</sup> Puc 201.05(a)(2)



other professional experience of the applicant that demonstrates sufficient knowledge of geothermal systems and thermal metering technologies.

The applicant possesses sufficient professional experience and qualifications to fulfill the duties of an independent monitor for geothermal systems. As a co-founder of Ground Energy Support LLC, the applicant has led the development of a geothermal heat pump monitoring and metering system and has gained significant experience through metering over 40 different heat pump systems over a period more than 2 years. In addition, applicant has been:

- Invited speaker at industry training workshops for geothermal professionals<sup>5</sup>,
- Served on the Board of Directors for the New England Geothermal Professionals Association and been designated as the lead NEGPA expert regarding technical matters related to proposed Puc 2500.
- Active member of the ASTM International Subcommittee E44.25, WK37952: Specification for equipment and instrumentation of heat metering technologies, January 2013 to present.
- Served as consultant for a New Hampshire-based company to provide heat metering specifications for a commercial-scale geothermal system that will meet the EN1434 standard.

For professional qualifications, the applicant has a PhD in Hydrology from the New Mexico Institute of Technology, with expertise in data collection and analysis, and is a tenured faculty member at the University of New Hampshire.

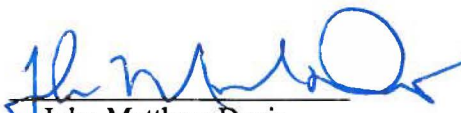
Collectively the applicant presents sufficient professional experience to fulfill the duties of an independent monitor for geothermal systems.

**Non disruptive to resolution of matters before commission.**

We suggest that approval of the waiver will not be disruptive to resolution of matters before the Commission. If fact, granting the waiver will improve the efficiency with which potential sources generating energy from eligible geothermal sources can apply for certification and begin metering thermal energy produced.

**Respectfully Submitted:**

By:

  
John Matthew Davis  
Ground Energy Support LLC  
2 Washington St Suite 217  
Dover NH 03824  
(603) 867-9762

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<sup>5</sup> "Geothermal and You in New England", Workshop sponsored by the New England Geothermal Professionals Association, Sturbridge Massachusetts, March 18, 2013.

"Geothermal Heating and Cooling Innovations: Designs, Financing, and Regulation, sponsored by the American Ground Water Trust, South Plainfield NJ, August 14, 2013.

"Geothermal Heating and Cooling Innovations: Designs, Financing, and Regulation, sponsored by the American Ground Water Trust, Marlborough Massachusetts, October 23, 2013.

# New Mexico Institute of Mining and Technology

The Regents of the New Mexico Institute of Mining and Technology on the recommendation of its Faculty and by virtue of the authority vested in them by the laws of New Mexico have conferred upon

**John Matthew Davis**

the degree of

**Doctor of Philosophy in Geoscience (Hydrology)**

this fourteenth day of May, nineteen hundred ninety-four.

With all the rights, privileges and honors appertaining thereto.

*J. A. Snodgrass*  
Dean of Graduate Studies



*Paul H. Ling*  
President of the Institute