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N.P.U.C. Case No.	DE 08-077
Exhibit No.	1
Witness	WICKER
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**THE STATE OF NEW HAMPSHIRE**  
**BEFORE THE**  
**NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

**Docket No. DE 08-**

**DIRECT TESTIMONY OF**

**S. B. Wicker, Jr.**

Request for Approval Under RSA 362-F  
of a  
Power Purchase Agreement

*May 28, 2008*

1 **Q. Please state your name, business address and position.**

2 A. My name is S. B. Wicker, Jr. My business address is 780 North Commercial Street,  
3 Manchester, NH 03105. I am currently a Principal Engineer with PSNH.

4 **Q. Mr. Wicker, have you previously testified before the Commission?**

5 A. Yes, I have testified on numerous occasions before the Commission on issues relating to non-  
6 utility generation, most recently in DE 07-125.

7 **Q. Would you provide a brief summary of your educational background and work**  
8 **experience?**

9 A. I received a Bachelor of Science degree in electrical engineering from Worcester Polytechnic  
10 Institute in 1966. I received a Master of Business Administration degree from Northeastern  
11 University in 1977. I first began my employment at PSNH in 1966.

12 From 1972 until 1981, I held various engineering positions. I became a manager of financial  
13 projects in 1981. In 1986, I became manager of Supplemental Energy Sources Department  
14 (“SESD”), a position I held until July of last year when I became a part time employee handling  
15 special projects relating to non-utility generation. SESD is responsible for PSNH's relations  
16 with all non-utility generators seeking to interconnect with the PSNH electric system and  
17 includes the interconnection, administration, and payment activities relating to approximately  
18 150 projects.

19 **Q. What is the purpose of your testimony?**

20 A. The purpose of my testimony is to request approval of two agreements which PSNH has  
21 entered into with the Lempster Wind Project to buy energy, capacity and New Hampshire Class  
22 I Renewable Energy Certificates (“New Hampshire RECs”). Because the agreements have  
23 terms of 15 years, Commission approval of the arrangements is required under RSA 362-F:9.  
24 That law provides, in part, as follows:

25 “Upon the request of one or more electric distribution companies and after notice  
26 and hearing, the commission may authorize such company or companies to enter  
27 into multi-year purchase agreements with renewable energy sources for certificates,  
28 in conjunction with or independent of purchased power agreements from such  
29 sources, to meet reasonably projected renewable portfolio requirements and default  
30 service needs to the extent of such requirements, if it finds such agreements or such  
31 an approach, as may be conditioned by the commission, to be in the public interest.”

**Q. Please describe the Lempster Wind Project.**

A. The Lempster Wind Project (the “Project”) is located on Lempster Mountain in Lempster, New Hampshire and will consist of twelve Gamesa G87 wind turbines. Each turbine will be mounted on a 78-meter (256-foot) tower and will have a nameplate rating of 2.0 Mw for a total Project output of 24 Mw. The Project is located in the service territory of the New Hampshire Electric Cooperative (“NHEC”).

**Q. Who will own the Project?**

A. The Project is owned by Lempster Wind, LLC (“Lempster Wind”). Lempster Wind is now a wholly-owned subsidiary of Iberdrola Renewable Energies USA, Ltd. which, in turn, is a wholly-owned subsidiary of Iberdrola Renovables, S.A. Iberdrola, S.A., a Spanish utility, owns approximately 80% of Iberdrola Renovables.

**Q. Please describe the agreements entered into between PSNH and Lempster Wind.**

A. PSNH and Lempster Wind have entered into a Power Purchase Agreement (“PPA”) that governs the purchase of energy, capacity and New Hampshire RECs. PSNH and Lempster Wind have also entered into a Renewable Energy Certificate Option Agreement (“REC Option Agreement”) that governs the rights and obligations Lempster Wind has relating to repurchasing certain New Hampshire RECs from PSNH over the term of the Agreements. These two agreements are being filed under a Motion for Protective Order. Redacted versions of the agreements are attached hereto as Attachments SBW-1 and SBW-2.

**Q. Why is PSNH seeking a protective order regarding certain financial terms and conditions in these arrangements?**

A. PSNH would like to be able to continue to use the concepts developed in these agreements to purchase additional renewable power and renewable energy certificates from other developers. PSNH does not want to be at a competitive disadvantage in negotiations for the prices for power and renewable energy certificates, which could happen if certain key commercial terms of these agreements become public.

**Q. Has PSNH entered into any other agreements with Lempster Wind?**

A. Yes, PSNH and Lempster Wind have also entered into an Interconnection Agreement relating to the terms and conditions associated with the electrical interconnection of the Project with the electrical system of PSNH.

**Q. Is the Interconnection Agreement being filed with the Commission for approval?**

A. No. Normally interconnection agreements are not approved by the Commission. Interconnection agreements are, however, filed with the Commission for information purposes. A copy of the Interconnection Agreement is attached as SBW-3.

**Q. Please describe the electrical interconnection for the Project?**

A. The Project interconnects with the PSNH's electrical distribution system and consists of approximately 10.5 miles of dedicated 34.5 kV line built mostly along Route 10. This dedicated circuit will be built over existing distribution circuits from the Project site to PSNH's Newport Substation in Newport, New Hampshire. These existing distribution circuits in Newport and Goshen are owned by and serve customers of PSNH. PSNH also serves approximately a dozen customers along Route 10 in Lempster near the Goshen town line. The remaining existing distribution circuit in Lempster is owned by and serves customers of the NHEC.

**Q. Who will own the dedicated circuit and the upgraded distribution circuits?**

A. PSNH will solely own the entire dedicated circuit to interconnect the Project to PSNH's electrical system. The dedicated circuit will be built on top of a rebuilt distribution circuit that will continue to serve existing customers of PSNH and NHEC who are located between the Project and the Newport substation. PSNH will continue to own the rebuilt distribution circuit in Newport and Goshen. NHEC will continue to own and PSNH and NHEC will jointly operate and maintain the portion of the rebuilt distribution line in NHEC's service territory under an Agreement for the Joint Use of Pole Structures between PSNH and the NHEC (the "JUA").

**Q. Is PSNH requesting approval of the JUA by the Commission ?**

A. No, because approval of the JUA is not required. However, a copy of the JUA is attached as SBW-4.

**Q. Will PSNH enter into any other agreements relating to the Project?**

A. Yes. PSNH and the NHEC are drafting a Lempster Resale Agreement that contains the terms and conditions through which PSNH will resell 10% of the output from the Project to the NHEC. The terms and conditions of the Lempster Resale Agreement are intended to be the same as the original Agreements between PSNH and Lempster Wind.

1 **Q. Why is the Lempster Resale Agreement with the NHEC necessary?**

2 A. The Project is in the NHEC's service territory. In determining the best way to interconnect the  
3 Project, PSNH and NHEC determined that jointly developing the interconnection and jointly  
4 sharing the output from the Project was beneficial to both. In order to simplify the contractual  
5 arrangements it was decided that PSNH would buy all the output from the Project (both power  
6 and New Hampshire RECs) and in turn resell 10% of such output to the NHEC on the same  
7 terms and conditions as in the PPA and REC Option Agreement.

8 **Q. Is the Lempster Resale Agreement being filed with the Commission for approval?**

9 A. No. That Agreement is a wholesale power agreement governed by the FERC. The  
10 Commission will receive a copy of the Lempster Resale Agreement at the time the agreement is  
11 completed.

12 **Q. Has the Project received all its permits and approvals?**

13 A. Yes. ISO-NE has completed and approved the electrical interconnection and the New  
14 Hampshire Site Evaluation Committee issued a Certificate of Site and Facility in June, 2007.  
15 Lempster Wind has informed PSNH that all of the other permits and approvals for construction  
16 and operation of the Project have been received.

17 **Q. What is the status and construction schedule of the Project?**

18 A. Construction on the Project started in early 2008 with site clearing and road preparation. The  
19 contract to rebuild the existing distribution line, including the dedicated circuit to electrically  
20 interconnect the Project was awarded in February and the contractor started setting new poles in  
21 early April. The wind turbines should be delivered starting in June with erection to follow  
22 shortly thereafter. The electrical interconnection is planned to be completed in August with all  
23 of the wind turbines on line and the Project in full commercial operation in September.

24 **Q. How much energy and New Hampshire RECs is the Project expected to produce  
25 annually?**

26 A. The twelve Gamesa wind turbines are each rated 2.0 Mw. With an estimated capacity factor of  
27 33% the net electric power production from the Project is expected to be approximately 70,000  
28 MWh per year. The number of New Hampshire RECs produced annually will therefore also be  
29 approximately 70,000.

**Q. How will PSNH reconcile the cost of the products procured under these agreements?**

A. The energy and capacity purchased under these agreements will be used to satisfy PSNH's Default Energy Service obligation. Forecasted costs will be included in the Default Energy Service rate and actual costs will be reconciled annually. The New Hampshire RECs purchased under the agreements will be used to meet PSNH's New Hampshire minimum renewable standards for energy portfolios ("New Hampshire RPS"). Because the cost of New Hampshire RECs will be included in PSNH's Energy Service rate, those costs will be forecasted and reconciled in the same manner as energy costs.

**Q. What are the specific energy pricing terms of the PPA?**

A. PSNH will purchase all energy delivered from the Project at a rate equal to [REDACTED] of the ISO-NE Energy Price, subject to an energy floor price of [REDACTED] /MWh. The ISO-NE Energy Price is the hourly Real-Time ISO-NE locational marginal price at the North Road node (ID #4394) in the New Hampshire Load Zone of the ISO-NE market system.

**Q. How is the energy floor price calculated?**

A. Each month PSNH will calculate the average energy price paid to the project during the month. If that average energy price is less than the energy floor price an adjustment in the amount paid for energy for the month shall be made so that the average energy price paid is equal to the energy floor price.

**Q. Please describe the specific capacity pricing terms in the PPA.**

A. Starting the beginning of Project Year [REDACTED], PSNH shall pay for capacity from the Project an amount equal to [REDACTED] of the amount PSNH is credited for the Project's capacity in PSNH's ISO-NE settlement account. No capacity payment will be made prior to Project Year [REDACTED].

**Q. Please describe New Hampshire RECs.**

A. New Hampshire RECs are NEPOOL GIS Certificates derived from the energy production of a project that have been qualified for the New Hampshire RPS as established in New Hampshire RSA Chapter 362-F.

1 **Q. Please describe the specific pricing terms for New Hampshire RECs under the PPA?**

2 A. PSNH will pay Lempster Wind the following amounts for New Hampshire RECs produced  
3 by the Project: ■■■/REC for Project Years 1 through 5, ■■■/REC for Project Years 6 through  
4 10, and ■■■/REC for Project Years 11 through 15.

5 **Q. Will the Project be paid monthly for the New Hampshire RECs produced?**

6 A. Yes. Payment for New Hampshire RECs will be made monthly and will be based upon the  
7 energy delivered from the Project to PSNH in that month.

8 **Q. Will PSNH buy all the New Hampshire RECs produced by the Project?**

9 A. Yes. PSNH will buy all New Hampshire RECs produced by the Project subject to the terms  
10 and conditions contained in the REC Option Agreement described below.

11 **Q. Please describe the specific terms in the REC Option Agreement.**

12 A. The REC Option Agreement allows Lempster Wind to repurchase certain New Hampshire  
13 RECs from PSNH over the term of the Agreement. Lempster Wind would probably exercise  
14 this option if it could sell New Hampshire RECs into other New England State RPS Programs  
15 or the voluntary “green” market for a higher price than the New Hampshire REC purchase  
16 prices contained in the REC Option Agreement.

17 **Q. Does the number of New Hampshire RECs Lempster Wind is entitled to repurchase vary  
18 over the term of the Agreement?**

19 A. Yes. Lempster Wind is entitled to repurchase up to ■■■■■ of the New Hampshire  
20 RECs sold to PSNH over the first 10 years and ■■■■■ for the last 5 years of the term.

21 **Q. Why is Lempster Wind being given this option?**

22 A. The New England renewable energy certificates market now includes all six states and the  
23 requirements and prices vary from time to time and state to state. In addition there is a  
24 voluntary “green” market for customers that wish to support renewable energy. This  
25 arrangement allows Lempster Wind to seek the greatest value for the New Hampshire RECs  
26 over the 15-year term of the agreements.

1 **Q. Will PSNH's customers receive any benefit if Lempster Wind elects to sell New**  
2 **Hampshire RECs to third parties?**

3 A. Yes. The agreement provides for PSNH to receive, in addition to the cost it paid for the New  
4 Hampshire RECs, a premium of [REDACTED] for each NH REC repurchased by Lempster Wind.

5 **Q. Does PSNH have an estimate of the number of New Hampshire RECs it will need under**  
6 **the New Hampshire RPS?**

7 A. Yes. Based upon PSNH's 2006 retail load, PSNH would need approximately 43,013 New  
8 Hampshire RECs in 2009, 87,995 in 2010, 180,118 in 2011, and 277,789 in 2012. Thereafter  
9 the number of New Hampshire RECs needed by PSNH to meet its New Hampshire renewable  
10 portfolio requirement increases by more than 100,000 annually.

11 **Q. What is the amount of New Hampshire RECs that could be generated by this Agreement?**

12 A. Since the Project will produce approximately 70,000 New Hampshire RECs annually, of  
13 which 7,000 will be resold to NHEC, PSNH will be entitled to a maximum of 63,000 New  
14 Hampshire RECs annually depending upon the number of New Hampshire RECs  
15 repurchased by Lempster Wind under the REC Option Agreement. If the Project is  
16 completed in September, PSNH would be entitled to a maximum of 21,000 RECs,  
17 depending upon the number of New Hampshire RECs repurchased by Lempster Wind under  
18 the REC Option Agreement.

19 **Q. What generation sources qualify for New Hampshire Class I RECs?**

20 A. New Hampshire Class I RECs are produced by renewable electrical generation sources (except  
21 as described in RSA 362-F:4) that began operation after January 1, 2006. Some of the  
22 qualifying generation sources are wind, eligible biomass technologies, incremental hydro, and  
23 methane gas.

24 **Q. What existing generation in New Hampshire qualifies for New Hampshire RECs?**

25 A. Currently only a few projects qualify as Class I. The most notable is PSNH's Northern Wood  
26 Power in Portsmouth, NH. PSNH has filed for Class I REC certification for the incremental  
27 generation achieved by PSNH's Smith Hydro upgrade. We understand that one bio-mass wood  
28 project that was closed in the 1990s is in the process of being redeveloped and may qualify for  
29 New Hampshire RECs.



1 **Q. With the approval of these agreements will PSNH fully meet its New Hampshire RPS**  
2 **requirements?**

3 A. No. Depending on a number of factors such as the quantity repurchased under the REC Option  
4 Agreement, the PPA could potentially enable PSNH to fully meet its New Hampshire Class I  
5 requirement in 2009 and 2010. However, as PSNH's requirement for New Hampshire RECs  
6 increases, each year thereafter the Project will meet a decreasing percent of PSNH's  
7 requirements. PSNH expects that the supply of Class I RECs in the New England region will  
8 fall short of the demand over the next few years, and as a result PSNH will continue to have the  
9 opportunity to sell a portion of its New Hampshire RECs from Northern Wood Power, or RECs  
10 from the Project into other New England state RPS programs. Even If PSNH were to apply all  
11 the New Hampshire RECs from Northern Wood Power, Smith Hydro and the Project toward its  
12 New Hampshire RPS requirement, by 2013 it probably would be unable to meet its New  
13 Hampshire RPS requirement without additional New Hampshire REC purchases.

14 **Q. What are the legal standards for approval of these agreements?**

15 A. RSA 362-F:9, allows the Commission to authorize a utility to enter into a multi-year purchase  
16 agreement for renewable energy certificates in conjunction with or independent of purchases of  
17 energy from renewable energy sources if it finds the agreement in the public interest. To  
18 determine whether an agreement is in the public interest, RSA 362-F:9, II requires that the  
19 Commission must find that the agreement is substantially consistent with the following factors:  
20 “(a) The efficient and cost-effective realization of the purposes and goals of this  
21 chapter;  
22 (b) The restructuring policy principles of RSA 374-F:3;  
23 (c) The extent to which such multi-year procurements are likely to create a  
24 reasonable mix of resources, in combination with the company's overall energy  
25 and capacity portfolio, in light of the energy policy set forth in RSA 378:37 and  
26 either the distribution company's integrated least cost resource plan pursuant to  
27 RSA 378:37-41, if applicable, or a portfolio management strategy for default  
28 service procurement that balances potential benefits and risks to default service  
29 customers;  
30 (d) The extent to which such procurement is conducted in a manner that is  
31 administratively efficient and promotes market-driven competitive innovations  
32 and solutions; and  
33 (e) Economic development and environmental benefits for New Hampshire.”

1   **Q.     Do these Agreements meet the standards listed above?**

2   A.     Yes, they do. The first standard requires that the agreement meet the purposes and goals of the  
3           chapter in an efficient and cost-effective manner. The goals of the chapter are to promote  
4           renewable energy production in New Hampshire. The Agreements will certainly do that, since  
5           they support the construction of new renewable generation in New Hampshire that qualifies for  
6           New Hampshire RECs. Moreover, the pricing of energy is based upon market prices and the  
7           New Hampshire RECs are being obtained at a discount from both the legislatively determined  
8           default price and current market prices.

9           The second standard requires that the Agreements be consistent with the restructuring policy  
10          principles of RSA 374-F:3. Nothing in the Agreements is in conflict with any of the policy  
11          principles contained in that statute.

12          The third standard requires that the Agreements create a reasonable mix of resources in light of  
13          the state's energy policy in RSA 378:37 and the utility's integrated least cost resource plan.  
14          The Agreements will provide PSNH with its first wind-powered renewable energy source and  
15          assist PSNH in meeting the requirements of the Renewable Portfolio Standard (RSA 362-F). In  
16          PSNH's Integrated Least Cost Resource Plan filed on September 30, 2007, PSNH discusses the  
17          need to enter into longer-term contracts with renewable facilities that produce RECs.

18          The fourth standard discusses the need for procurement of power to be administratively  
19          efficient and promoting market-driven competitive solutions. With the approval of these  
20          Agreements, PSNH will obtain 24 MW of renewable power representing approximately 10% -  
21          15% of PSNH's Class I requirement during 2009 – 2012. These Agreements form a model for  
22          future negotiations, thus providing for administrative efficiency. Moreover, since the  
23          Agreements have been negotiated with market participants, they are market-driven competitive  
24          solutions to PSNH's need for renewable energy.

25          The fifth standard requires that the agreements provide economic development and  
26          environmental benefits for New Hampshire. The Agreements provide the support to develop  
27          this wind project and the renewable energy generated by the Project will reduce PSNH's  
28          reliance on fossil-fuel-based market purchases.

1    **Q.     Do you believe these Agreements are beneficial for PSNH’s customers and will meet the**  
2       **requirements of the New Hampshire RPS program?**

3    A.     Yes. We believe the Agreements provide energy and capacity for our customers at prices that  
4       are below market and lower our future cost of purchased power. These Agreements also add a  
5       new source of renewable generation in New Hampshire, wind power, to help PSNH meet its  
6       New Hampshire RPS requirements.

7    **Q.     What action are you requesting from the Commission?**

8    A.     We are requesting that the Commission find that the Agreements are in the public interest, as  
9       required under RSA 362-F:9.

10   **Q.     Does this complete your testimony?**

11   A.     Yes, it does.