

1 THE STATE OF NEW HAMPSHIRE
2 BEFORE THE
3 NEW HAMPSHIRE
4 SITE EVALUATION COMMITTEE

5
6 DOCKET NO. 2008-

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8 APPLICATION OF GRANITE RELIABLE POWER, LLC
9 FOR CERTIFICATE OF SITE AND FACILITY
10 FOR GRANITE RELIABLE POWER WINDPARK
11 IN COOS COUNTY

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14 TESTIMONY OF CHARLES READLING AND PIP DECKER
15 ON BEHALF OF
16 GRANITE RELIABLE POWER, LLC

17 July 2008

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19
20 Qualifications of Charles Readling

21
22 **Q. Please state your name and business address.**

23 A. My name is Charles Readling. My business address is 8 Railroad Avenue,
24 Essex, Connecticut 06426.

25 **Q. Who is your current employer and what position do you hold?**

26 A. I am employed by Noble Environmental Power (“Noble”). In my present
27 position I am the Director of Development for Noble Environmental Power. I am
28 responsible for the development and operation of wind energy electric facilities in New
29 Hampshire, Vermont, Maine and Michigan.

30 **Q. What are your background and qualifications?**

31 A. I have an associate’s degree in science/engineering, a B.A. in business
32 management from North Carolina State University and an MBA from the Fuqua School

1 of Business at Duke University. Prior to joining Noble, I had ten years experience in the
2 telecommunications equipment and information technology industries.

3 **Qualifications of Pip Decker**

4

5 **Q. Please state your name and business address.**

6 A. My name is Pip Decker. My business address is 148 Main Street,
7 Lancaster, New Hampshire 03584.

8 **Q. Who is your current employer and what position do you hold?**

9 A. I am employed by Noble Environmental Power. In my present position I
10 am a Development Manager and responsible for all development activities related to
11 Granite Reliable Power, LLC.

12 **Q. What are your background and qualifications?**

13 A. I have been in the employment of Noble for over two years. Prior to
14 joining Noble, I was an advocacy coordinator for a national non-profit. I hold a B.A. in
15 Public Policy from the College of William and Mary. During my undergraduate studies,
16 I interned under Congressman Sherwood Boehlert, then Chairman of the House Science
17 Committee, in Washington D.C. This opportunity allowed me to gain regulatory insight
18 into the challenges and possibilities of the burgeoning renewable energy industry.

19 **Purpose of Testimony and Overview of the Project**

20

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

22 A. The purpose of our testimony is to provide an overview of the Granite
23 Reliable Power, LLC (“GRP”) wind project in Coos County (the “Project”), to describe
24 the process we have gone through prior to the submission of the Application, including
25 the people and groups we have met with and the various reports and studies that have

1 been completed to date. This testimony will also discuss alternatives that were
2 considered, provide information about the impact of the Project on the orderly
3 development of the region, and describe why we believe this Project is consistent with
4 the state energy policy. We will also explain why we believe this Project will meet the
5 objectives of RSA 162-H, and will describe the steps the Project has taken to minimize
6 impacts on aesthetics, historic sites, air and water quality, the natural environment, public
7 health and safety.

8 **Q. Are you familiar with the Project that is the subject of this**
9 **Application?**

10 A. Yes, we are. In our roles as Development Manager and Director of
11 Development we have been involved in the planning for this Project from the early stages
12 of development. On a going forward basis we will be involved in securing financing and
13 assistance with the construction of this Project.

14 **Q. Please describe how this Project was initiated and what work has been**
15 **done on the Project prior to the submission of the Application.**

16 A. Wind power development is unique in that it requires three essential
17 components in the development of a successful windpark: an adequate wind resource,
18 proximity to transmission lines, and community support. This Project meets all of these
19 requirements.

20 Based on information compiled using publicly available wind mapping software,
21 the wind resources in Coos County appear to be some of the best in New England.
22 During a highly selective screening process and using cutting-edge wind mapping
23 technology, the proposed Project area was identified as having wind resources that would

1 support the development of a windpark. In order to better study the site specific wind
2 characteristics, Noble applied for and received permits for six meteorological towers (or
3 “met towers”), three of which are currently in operation. Evaluating wind data is crucial
4 for properly siting efficient windparks. The wind data available from these met towers to
5 date confirms Noble’s initial view of the wind resources.

6 Because we believe that community support is important for the success of a
7 windpark, from the beginning we have worked to involve the local communities in the
8 development of the windpark. To date, we have made presentations about the Project to
9 various towns, municipalities, and interested parties on multiple occasions. These parties
10 include the Coos County Commissioners, the Coos County Planning Board, North
11 Country Council, Coos Economic Development Corporation, Coos County Legislators,
12 the Town of Stark, the Town of Dummer, and the Town of Colebrook. The presentations
13 were made to highlight the various studies and work either completed or ongoing in the
14 Project area. More of such meetings are planned.

15 With an office in Lancaster, Noble’s local presence has allowed us to better
16 manage the Project’s developmental responsibilities, as well as provide an open door to
17 interested parties and individuals who wish to learn more about the windpark. Noble also
18 has a website, www.noblepower.com, and email address, info@noblepower.com, for the
19 purpose of answering questions about the Project. Increased visibility and continuous
20 outreach efforts, we believe, have helped garner support from the local and surrounding
21 communities.

22 Recognizing the need to meet New Hampshire’s state energy policy goals, the
23 design and development of GRP springs from the dialogue with local leaders, landowners

1 and parties, the incorporation of environmental and environmental-related studies
2 conducted on the property, and Noble's experience in successfully siting, designing,
3 developing and financing windparks across the country. We believe that this windpark
4 not only will help deliver safe, clean, renewable energy, but also become a source of
5 pride for the citizens of Coos County.

6 **Project Description**

7 **Q. Please provide information about the location of the proposed project site**
8 **and basic information about the design of the facility.**

9 A. The Granite Reliable Power windpark is proposed to be installed on private
10 land in the central portion of Coos County in northern New Hampshire. See Figure 3 in
11 the Application which depicts the location of the Project. Project components, including
12 wind turbines, access roads, and electrical interconnection facilities, will be located in the
13 unincorporated places of Dixville, Ervings Location, Millsfield and Odell, and the town
14 of Dummer. Geographically, the northernmost point of the Project, i.e. the Wind Turbine
15 String on Dixville Peak, is located approximately 1.6 miles (2.5km) south of NH Route
16 26 where the highway passes northwest from Errol through the Dixville Notch (including
17 the Dixville Notch State Park and the Balsams Resort) to NH Route 3 in Colebrook.

18 All of the Project components are located on three privately-owned land tracts.
19 Granite Reliable Power has entered into long-term land use agreements with the
20 landowners that will allow the windpark to be constructed and operated on a long-term
21 basis. The two main parcels are often referred to as the Phillips Brook Tract (23,768
22 acres) and the Bayroot Parcel (59,776 acres). Both properties are used for commercial
23 logging activities and have been for a number of years. The third parcel is in the

1 northwest corner of the Project bordering the Bayroot Parcel. The Phillips Brook Tract
2 and Bayroot properties share a common boundary that roughly forms the ridgeline south
3 of Dixville Peak along which the Wind Turbine Strings are located. This ridgeline also
4 forms a divide between two watersheds; to the west, the Phillips Brook and its tributaries
5 drain into the Upper Ammonoosuc River as it flows west to meet the Connecticut River
6 in Groveton. The Bayroot Parcel drains largely to the east through several tributaries that
7 join the Androscoggin River as it flows south and east through Gorham. These tracts of
8 land, along with other major physiological features, form the vicinity of the Project.

9 The structure that will be closest to the Project is the seasonally-used upper lift
10 terminus of the neighboring Balsams Wilderness Ski Area, located approximately 0.8
11 miles (1.3 km) from the nearest proposed wind turbine in Dixville. The year-round
12 residence that will be closest to the wind turbine locations is approximately 2.9 miles (4.7
13 km) to the east along Route 26, as shown in Figure 25 in the Application. There is no
14 permanent residential land use on the private land on which the Project will be
15 constructed. Approximately 2 miles (3.2 km) to the east of the Mt. Kelsey Wind Turbine
16 Strings are seasonal cabins on the southern shore of Millsfield Pond.

17 The Granite Reliable Power windpark will be powered by 33 Vestas wind
18 turbines, each with a rated nameplate capacity of 3.0 megawatts, for a total installed
19 nameplate capacity of 99 megawatts. The Project will include approximately 19 miles of
20 existing logging roads and the construction of approximately 12 miles of new roads to
21 access the turbine sites. Electrical collection for these turbines will meet at a substation
22 off the Dummer Pond Road in the town of Dummer.

1 To the greatest extent possible, the collection lines and the interconnecting power
2 line will utilize previously forested areas that are on or near adjacent logging roads. All
3 collection circuits will converge at a substation which will “step-up” 34.5kV to 115kV
4 power. This new 115 kV interconnection power line will be constructed to run between
5 the substation and the existing Public Service Company of New Hampshire (“PSNH”)
6 115 kV transmission line south of the Project site. The interconnecting power line will be
7 built exclusively in the town of Dummer and a switchyard will be built at the point of
8 interconnection to the PSNH line. All property on which the collection lines, the
9 interconnecting power line, and the switchyard will be constructed is currently under
10 lease with Granite Reliable Power.

11 Because it is a geographically constrained resource, windpower is a stationary
12 resource that may face transmission constraint issues. Fortunately, this Project is able to
13 tie into the existing 115kV transmission lines located off Dummer Pond Road, in the
14 incorporated town of Dummer. In order for the Project to successfully interconnect to the
15 electric grid, Granite Reliable Power will fully fund a “resagging” of the existing
16 transmission loop in that area to be completed by PSNH at a cost of roughly \$10-15
17 million dollars. Based on the System Impact Study conducted by the New England
18 Independent System Operator (“NEISO”), a copy of which, once finalized, will be
19 submitted with the Application as Appendix 8, once this resagging is complete, Granite
20 Reliable Power will be able to transmit the power generated by the Project onto the grid.

21 The plan is for preliminary construction activities to begin during the middle of
22 2009. Full construction, including, but not limited to, turbine delivery, staging,
23 transportation, turbine installation, and related electrical work, is expected to be

1 completed before September of 2010. It is anticipated that the Project will be fully
2 constructed in 2009, with the exception of the wind energy turbines themselves, which
3 will arrive in the Spring of 2010.

4

5 **Alternatives Considered**

6

7 **Q. Please describe alternative sites for the Project that were considered**
8 **during the early stages of review and as this Project has progressed.**

9 A. Wind is a prevalent resource in New England. As stated previously, three
10 key components are necessary in order to successfully develop a windpark. While
11 various sites were evaluated throughout New Hampshire, the existing interconnection
12 infrastructure, large amount of available land, and strong wind resource in Coos County
13 led to the selection of this site for development activities. Initially the Project focused on
14 the tracts of land in the Phillips Brook area, not only because of the tremendous wind
15 resource capable of supporting a 100MW windpark, but also because the area has a long
16 history of heavy logging activity that has yielded a vast road network with excellent soil
17 compaction. As the development process continued, the property under consideration
18 expanded to some 84,000 acres. This abundance of property allowed us to plan the
19 placement of windpark facilities in an effort to minimize impacts. Given the geographic
20 location, local support, proximity to transmission lines, and availability of leased
21 premises, we believe that the Project in its final form is an ideal place to propose a
22 windpark.

23 **Impact on Orderly Development of the Region**

24

25 **Q. Do you believe this Project will unduly interfere with the orderly**
26 **development of the region?**

1 A. No. This Project is consistent with the orderly development of the region
2 and therefore will not unduly interfere with it. The Project will provide both an economic
3 and environmental benefit to the community, the state, and the New England region.
4 Thus, GRP hopes to be a source of pride to the citizens of Coos County.

5 In the wake of the closings of the mills in Groveton and Berlin, GRP hopes to
6 serve as an economic stimulus, providing support to citizens of the North Country
7 through direct and indirect employment related to the construction and operation of the
8 windpark. In addition, given that the overall footprint required for Project facilities is
9 small and that the Project will utilize a vast existing road network which is currently used
10 to support commercial logging activity – an activity that will be able to continue on the
11 property after the windpark is in operation - the Project will be consistent with the orderly
12 development of the region.

13 **Q. Have you taken into consideration the views of municipal and**
14 **regional planning commissions and municipal governing bodies?**

15 A. Yes, we have taken their views into consideration. We have met with the
16 involved parties, such as, for example, the Coos County Planning Board, as stated above,
17 on multiple occasions in order to provide them with Project updates and to request and
18 obtain permits for meteorological towers.

19 **Consistency with State Energy Policy**

20

21 **Q. Do you believe that this Project is consistent with the state energy**
22 **policy?**

23 A. Yes. RSA 378:37 states that it is the energy policy of this state “to meet
24 the energy needs of the citizens and businesses of the state at the lowest reasonable cost

1 while providing for the reliability and diversity of energy sources; the protection of the
2 safety and health of the citizens, the physical environment of the state, and the future
3 supplies of nonrenewable resources; and consideration of the financial stability of the
4 state's utilities.” This Project, by providing clean, renewable electricity, will help to
5 meet the needs of citizens and businesses of the state. The additional power provided by
6 this Project will be used to meet current and future electricity demands via non-polluting
7 generation. If approved, this proposed 99MW windpower facility will be the second
8 commercial windpower facility in New Hampshire. This Project will triple the amount of
9 installed windpower capacity in New England (49 megawatts as of this writing), and
10 therefore clearly will add to the diversity of electricity resources in the state and region.
11 Adding another cost efficient source of electricity to the region will help to maintain or
12 lower prices for all customers, since windpower will help to promote fuel diversity and a
13 supply shift away from New England’s historical reliance on natural gas. This serves to
14 mitigate the price effect natural gas has on electricity pricing within the NE-ISO energy
15 market. By producing electricity from a source that does not contribute to greenhouse
16 gases, the Project will help preserve the physical environment of the state from further
17 degradation caused by certain air emissions. Finally, by adding a renewable source of
18 electricity this Project will help New Hampshire utilities meet their requirements under
19 the new Renewable Portfolio Standard law passed by the New Hampshire Legislature in
20 2007, Chapter 26, Laws of 2007, codified as RSA 362-F, and thereby maintain their
21 financial stability. For all of these reasons, we believe that this Project is consistent with
22 the state energy policy.

1 **Consistency with Objectives of the Law**

2
3 **Q. What is your understanding of the objectives of RSA 162-H?**

4 A. In RSA 162-H:1, II the Legislature found that “present and predicted
5 growth in electric power demands” in New Hampshire requires that it establish a
6 procedure for selecting sites for electric generating facilities. The Legislature also
7 recognized that the selection of sites “will have a significant impact upon the welfare of
8 the population, the location and growth of industry, and the use of the natural resources
9 of the state.” Because of these concerns, the Legislature found that “the public interest
10 requires that it is essential to maintain a balance between the environment and the need
11 for new power sources”. The Legislature went on to say that “electric power supplies
12 must be constructed on a timely basis” and that to avoid delay in construction of needed
13 facilities and to provide “full and timely consideration of environmental consequences,
14 all entities planning to construct facilities in the state should be required to provide full
15 and complete disclosure to the public of such plans”. The statute also says that “the
16 siting of electric generating plants and high voltage transmission lines should be treated
17 as a significant aspect of land-use planning in which all environmental, economic and
18 technical issues should be resolved in an integrated fashion, so as to assure the state an
19 adequate and reliable supply of electric power in conformance with sound environmental
20 utilization.”

21 **Q. Do you believe that the objectives of RSA 162-H would be best served**
22 **by the issuance of a certificate of site and facility for this Project?**

23 A. Yes, we do. Clearly adding a new source of clean power to the New
24 England grid this Project which can be completed relatively quickly will help to meet

1 growth in electric power demands. The power generated by this 99MW Project will be
2 sufficient to power approximately 35,000 homes. By locating in Coos County, this
3 Project can have a significant positive impact on the welfare of the population in the area.
4 A windpower project maintains a good balance in terms of its effect on the environment
5 and the need for new power because it does not create airborne pollutants, is sited to
6 minimize environmental impacts, and can be decommissioned when obsolete. Moreover,
7 through this Application and consideration by the Committee, there is a full and complete
8 disclosure of the impact of the Project. We believe that this Project meets all of the
9 objectives of the New Hampshire energy facility site evaluation law.

10 **Steps to Minimize Impacts**

11
12 **Q. Please describe some of the steps the Project has taken to minimize**
13 **impacts on aesthetics, historic sites, air and water quality, the natural environment,**
14 **and public health and safety.**

15 A. Other prefiled testimony submitted by Jean Vissering, Hope Luhman, Ray
16 Lobdell, Steve Pelletier and Adam Gravel, Dave Hessler, Phil Beaulieu, and Matthew
17 Borkowski will address these issues in more detail. However, the following summarizes
18 the steps we have taken to minimize the Project's anticipated impacts.

19 Spanning over 83,774 acres, the Project had a very large platform in which to
20 evaluate and propose a wind power facility. In identifying suitable locations for the
21 Project's wind turbines, studies were conducted at higher elevations on the eastern and
22 western sections of the property. The Project's final layout is derived from: the
23 integration of completed studies; feedback from agencies such as the New Hampshire
24 Fish and Game Department, New Hampshire Department of Environmental Services,

1 New Hampshire Natural Heritage Bureau, New Hampshire Department of Historical
2 Resources, US Fish and Wildlife Services, US Environmental Protection Agency, US
3 Army Corps of Engineers; consultations with wildlife biologists and wetland scientists;
4 and careful consideration of concerns related to future uses of the property. Through
5 these steps, the Project has been able to significantly reduce impacts by using existing
6 logging roads and previously disturbed areas such as clear-cuts, and by including the
7 adjacent landowner, Bayroot, LLC (“Bayroot”) into the final footprint design. Described
8 below is an evolution of how this windpark reached its final design.

9 The initial design of the Project originally took into account only the lands
10 belonging to the Kennebec West Forest, LLC. This land spans some 24,000 acres and is
11 bisected by tributaries that make up what is known as the Phillips Brook. The original
12 collection line that was proposed ran southerly down the Paris Road to a proposed
13 switchyard off of Paris Road, some six miles from the areas of windpower potential. All
14 necessary landowners have executed agreements in order to support the construction of
15 such a collection line. As the process evolved, it was clear that using the Bayroot tract of
16 land would eliminate or minimize various anticipated impacts.

17 Initial turbine strings were sited to meet the 100MW interconnection request as
18 conforming to Granite Reliable Power’s queue position in the NE-ISO grid system.
19 Sixty-Seven (67) General Electric 1.5 megawatt wind turbines were proposed across this
20 property. Initial surveys were conducted with respect to these proposed turbines,
21 including rare plant surveys, winter tracking surveys, breeding bird surveys, raptor
22 migration surveys, sound surveys, Phase IA archeological, cultural and historical surveys,

1 fall and spring bird and bat radar surveys, wetland reconnaissance, and wind
2 measurements. Discussions then began with the adjacent landowner, Bayroot, LLC.

3 As site plan layout activities progressed and feedback was received from
4 consultants, agencies and various other sources, the Project design was continuously
5 adjusted to minimize impacts. In part, this was accomplished through the following:

6 -Pursuing three (3) megawatt machines in order to maximize the windpower
7 potential of the Project, while decreasing the number of required turbine foundations
8 (from 67 to 33) and associated materials.

9 -Engaging the adjacent landowner, Bayroot LLC, in order to better utilize the
10 existing logging roads, disturbed areas and wind attributes, thereby further minimizing
11 the Project's footprint and impacts. Additionally, a third landowner was brought into the
12 Project; this allowed for maximum wind energy benefits while keeping direct and indirect
13 impacts to a minimum.

14 -Moving the proposed collection line, substation and switchyard in order to avoid
15 undisturbed wetlands and rerouting collection and substation locations to an already
16 disturbed logging road and previously clear-cut areas.

17 Through continuous dialogue, experience in windpower siting, and using existing
18 logging roads wherever possible, the Project was able to minimize the area of primary
19 and secondary impacts. Based on studies that were conducted throughout the property
20 area, it was ultimately decided that the final location of all wind turbines will be east of
21 the Phillips Brook, thereby eliminating the need to build or upgrade bridges across the
22 Phillips Brook and to construct, install and maintain multiple collection lines across the
23 watershed.

1 Moreover, as now proposed, the wind turbines will be far enough from any
2 existing structures that any physical impacts (i.e. from noise, ice shed, shadow flicker,
3 etc.) will be substantially, if not entirely, mitigated. The visual impacts will be mitigated
4 by the densely forested nature of the area and the presence of intervening terrain that
5 blocks long-distance views from many population centers.

6 **Other Permits**

7

8 **Q. Please identify any other permits the Project must obtain that are not**
9 **included in this process and the status of those permits.**

10 A. The following permits will be required prior to construction: Federal
11 Aviation Administration permit and Federal Wetlands Permit from the U.S. Army Corps
12 of Engineers. To date, GRP has held technical sessions with interested state and federal
13 agencies to review studies completed to date regarding the Project. As a result, GRP was
14 able to address various questions based on work completed to date. In addition, field
15 visits have been completed with all of the following agencies: New Hampshire Fish and
16 Game Department; New Hampshire Department of Environmental Services; New
17 Hampshire Natural Heritage Bureau; New Hampshire Department of Historical
18 Resources; U.S. Fish and Wildlife Service; U.S. Environmental Protection Agency; U.S.
19 Army Corps of Engineers. GRP's goal was to provide an open dialogue with the various
20 regulatory bodies in order to better inform them of: (a) the design of the Project; (b) the
21 work completed to date; and (c) what additional work GRP can complete in order to
22 address various issues associated with windpower development. In addition, initial
23 contact has been made with the FAA and we expect to submit our permit applications to
24 the FAA in late 2008.

1 **Q. Are there any other comments you would like to make at this time?**

2 A. Yes, on March 12, 2008, Granite Reliable Power, LLC entered into a
3 Payment in Lieu of Taxes (“PILOT”) agreement with the Coos County Commissioners
4 with the support of the Coos County Delegation. On December 8, 2007, the Delegation,
5 which consists of the members of the NH House of Representatives elected from Coos
6 County, adopted a resolution indicating that “the undersigned members support the
7 development of the GRP windpower park under development in the County’s
8 unincorporated places of Dixville, Erving’s Location, Millsfield and Odell.” With strong
9 local support, Noble and GRP are pleased to be investing in a County that is working to
10 create jobs, increase tourism and alleviate transmission constraints for other renewable
11 energy developers currently active in the County.

12 **Q. Does this conclude your prefiled testimony?**

13 A. Yes.

14

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