STATE OF VERMONT

PUBLIC SERVICE BOARD

Petition of Green Mountain Power Corporation, Vermont Electric Cooperative, Inc., and Vermont Electric Power Company, Inc., for a certificate of public good, pursuant to 30 V.S.A. Section 248, to construct up to a 63 MW wind electric generation facility and associated facilities on Lowell Mountain in Lowell, Vermont, and the installation or upgrade of Approximately 16.9 miles of transmission line and Associated substations in Lowell, Westfield and Jay, Vermont	)	Docket No. 7628

REBUTTAL TESTIMONY OF
JOSHUA CASTONGUAY
ON BEHALF OF GREEN MOUNTAIN POWER CORPORATION

November 22, 2010

Summary of Testimony

Mr. Castonguay describes changes to the proposed transmission upgrade since the Petition was filed, provides further details concerning transmission interconnection alternatives that were considered for the Project, and describes the status of the plans for the proposed VELCO Jay Tap substation.

REBUTTAL TESTIMONY OF JOSHUA CASTONGUAY
ON BEHALF OF
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1. Q. What is your name, occupation, and business address?

A. My name is Joshua Castonguay. I am employed by Green Mountain Power Corporation ("GMP" or the "Company") as the leader of Field Operations.

2. Q. Please describe your educational background and pertinent professional experience.

A. I have been employed by GMP since 2003 working in engineering until 2009, and then moving into field operations. I graduated from University of Maine in 2003 with a Bachelor of Science in Electrical Engineering Technology.

3. Q. Have you previously testified before the Vermont Public Service Board ("Board?")

A. Yes. I filed testimony in Docket No. 7601, Green Mountain Power Corporation's ("GMP") Berlin Solar project. I have also testified in Docket No. 6860, the Northwest Reliability Project.

4. Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe changes to the proposed transmission upgrade since the Petition was filed, provide further details concerning transmission interconnection alternatives that have been considered for the Project, and describe the status of the plans for the proposed VELCO Jay Tap substation. I also describe the Joint Ownership Agreement ("JOA") between GMP and Vermont Electric Cooperative, Inc. ("VEC").

5. Q. What changes to the Kingdom Community Wind ("KCW") transmission system have occurred since the initial filing?

A. There have been a few changes to the 46KV transmission system from the KCW collector substation up to the VEC Jay Switching Station. The proposed transmission line right-of-way width has been reduced from 100 feet to 50 feet from the point where the 46KV meets Route 100 in Lowell, up to the intersection of Cross Road and Route 105. This decision reflected the fact that most of the existing right-of-way is currently 50 feet, which therefore does not require an expanded right-of-way width. In addition, environmental impacts associated with right-of-way clearing will be reduced, without sacrificing reliability since the easements will permit removal of "danger trees" outside of the right-of-way.

There have been minor relocations of the line and pole locations, based on discussions with landowners, at various locations between the collector substation to the intersection of Cross Road and Route 105. Where the relocated line is beyond the area that was subject to the existing environmental and wildlife assessments, new assessments are being undertaken.

Finally, we are currently reviewing whether the originally-proposed 795 kcmil Aluminum Conductor Steel Reinforced ("ACSR") conductor to be used along the 46KV transmission line should be changed, in order to lower line losses, thus increasing the total MWH output of the Project. The types of Conductor being considered include Aluminum Conductor Composite Core ("ACCC") and Aluminum Conductor Steel Supported ("ACSS"). The appearance of these conductors is very similar to the originally-proposed ACSR conductor, when viewed from the ground.

Once all line relocations have been finalized and the type of conductor is established, a complete set of construction plan and profile drawings reflecting these changes will be submitted.

6. Q. Mr. St. Peter states that GMP did not adequately consider alternatives to the proposed transmission configuration. How do you respond?

A. As an initial matter, it is important to understand the context of this issue. Although the potential feasibility of other configurations may affect the cost, and therefore the economic benefit of the Project, it does not affect the issue of whether the proposed configuration has no adverse impact on system reliability or stability. Although ISO-NE permits an alternative arrangement to be reviewed, this is intended to provide the applicant with flexibility and does not impose any requirement that the least-cost alternative must be adopted for stability or reliability purposes. The issue of stability and reliability instead is determined by reference to the final Feasibility Study (**Exh. Pet.-DPE-18 (Revised)**), as Mr. Estey's testimony indicates.

In response to Mr. St. Peter's concerns, GMP further analyzed the following transmission alternatives:

a. Interconnecting the Project at 115KV from the collector substation to the existing VELCO Irasburg Substation.
b. Interconnecting the Project at 34.5KV from the collector substation to the existing CVPS Lowell substation.
c. Interconnecting the Project at 115KV from the collector substation to the existing 115KV line in Jay.
d. Interconnecting the Project at 46KV from the collector substation to the existing CVPS Lowell substation together with reconductoring the existing 46KV CVPS Lowell to Irasburg line.
e. Interconnecting the Project directly from the turbines at 46KV to the existing CVPS Lowell substation together with reconductoring the existing 46KV CVPS Lowell to Irasburg line.

7. Q. Please describe the results of this analysis.

A. A summary comparison of each alternative is further detailed in **Exh. Pet.-JC-1**. In general terms, the review confirmed that the proposed transmission interconnection is the optimal solution for connecting the Project to the electric grid. As indicated in the exhibit, the alternatives increased the cost by a minimum of approximately $16 million (62%) above the proposed configuration when the net present value of losses are included. It should also be noted that the 34.5KV to the CVPS system may require an upgrade to 46 KV to accommodate the expected level of project generation, which would be determined in a feasibility study.

8. Q. Please update the status of the ongoing reliability work for the VELCO Jay Tap Substation.

A. VEC and VELCO have recently completed the Jay Area Reliability Study. The study identified an overall need for multiple transmission solutions in the northeast part of Vermont. One of the projects identified is the construction of a new 115KV injection into the 46KV transmission network along northern Vermont. This proposed substation is known as the VELCO Jay Tap substation and will interconnect into the VEC Jay Switching station, which will be constructed soon. VELCO expects to file the Petition for a Certificate of Public Good for the VELCO Jay Tap substation in January, 2011. The VELCO Jay Tap substation is currently undergoing the ISO reliability review process, and once that process is complete, VELCO will submit the project, including a request for PTF treatment, to the ISO transmission cost allocation committee. It is expected to be approved by the reliability committee in January, 2011 and receive ISO transmission cost allocation approval shortly thereafter.

9. Q. What is the likelihood that the VELCO Jay Tap Substation will receive Pool Transmission Facility ("PTF") treatment?

A. Based on the status of the Jay area reliability analyses, the status of the ISO I.3.9 process, and the fact that all projects for which VELCO has requested PTF treatement have received that treatment, I am relatively confident that the Project will receive PTF treatment. These analyses demonstrate that the substation is needed for reliability purposes.

10. Q. How will the cost and other responsibilities for owning and operating non-wind farm transmission Project components be allocated between GMP and VEC?

A. GMP and VEC have negotiated a JOA, a copy of which is attached as **Exh. Pet.-JC-2**. The JOA reflects the provisions of the letter of intent previously filed as Exh. Pet.-CP-5. Under the JOA, certain jointly owned facilities will be owned 58.46% by GMP and 41.54% by VEC. In the JOA, these percentages are defined as each party's joint ownership share. Jointly owned property under the JOA will be owned by GMP and VEC as tenants in common. JOA Attachment A sets forth GMP and VEC responsibilities for facilities ownership, development, construction and operations, and maintenance costs of Project transmission components, from the KCW collector substation to the VEC Jay Tap Switching Station. Cost of land acquisition is also discussed. JOA Attachment B is an electrical one-line diagram representing the layout of the electrical components discussed in the Attachment A.

11. Q. Does this conclude your testimony?

A. Yes.