

STATE OF VERMONT

PUBLIC SERVICE BOARD

Joint Petition of Green Mountain Power)
Corporation, Vermont Electric Cooperative, Inc.)
and Vermont Electric Power Company, Inc. for a) Docket No. _____
Certificate of Public Good pursuant to 30 V.S.A. §)
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)

PREFILED TESTIMONY OF

JEFFERY M. WRIGHT

VERMONT ELECTRIC COOPERATIVE, INC.

May 21, 2010

Summary of Testimony

Mr. Wright's testimony provides Vermont Electric Cooperative's perspective on its arrangement with Green Mountain Power regarding the proposed upgrades to a number of transmission facilities. Mr. Wright's testimony also addresses three criteria of 30 V.S.A. Section 248 from VEC's perspective: (b)(2), Need; (b)(3), System Stability and Reliability; and (b)(6) Consistency with Least Cost Integrated Resource Plan.

**PREFILED TESTIMONY OF JEFFERY M. WRIGHT
ON BEHALF OF
VERMONT ELECTRIC COOPERATIVE, INC.**

1 **1. Q. Please state your name and your position.**

2 **A.** My name is Jeffery M. Wright, and I am Chief Operating Officer of Vermont
3 Electric Cooperative, Inc. (VEC). I have held this position since January 2008.

4
5 **2. Q. What is your educational and professional background?**

6 **A.** I have an Associates Degree in accounting and more than twenty years of utility
7 experience, all with Vermont utilities. I have more than twelve years of hands on field
8 experience working for Central Vermont Public Service Corporation (CVPS) on its transmission
9 line and substation crews. I then worked for Vermont Electric Power Company, Inc. (VELCO)
10 as a system operator for nearly four years before becoming a manager. As a manager for
11 VELCO, I oversaw the maintenance of all the VELCO assets; including substations,
12 transmission lines, right-of-ways and general plant. Before leaving VELCO to take my current
13 job at VEC, I managed VELCO's NERC compliance program.

14

15 **3. Q. Have you previously testified before the Vermont Public Service Board?**

16 **A.** Yes. I have testified before the Public Service Board (PSB) on behalf of VEC and
17 VELCO.

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

2 **A. Charles Pughe and David Estey on behalf of Green Mountain Power (GMP)**

3 describe the transmission facilities upgrades that are a necessary part of the Kingdom

4 Community Wind project, and they explain how those proposed upgrades comply with 30

5 V.S.A. § 248. I will provide VEC's perspective on its arrangements with GMP with respect to

6 the transmission upgrades. My testimony also explains how the transmission upgrades comply

7 with certain criteria of Section 248: need, system stability and reliability, and VEC's Integrated

8 Resource Plan.

9

10 **5. Q. Please describe what you mean by transmission upgrades.**

11 **A. Mr. Pughe and Mr. Estey provide a full description of the transmission upgrades**

12 that VEC and GMP will need to construct in order to transport the power generated by the

13 proposed wind facility. They include: (1) a new VEC Lowell # 5 Substation; (2)

14 decommissioning of VEC's current Lowell #5 substation and Irasburg #21 substation; (3)

15 upgrade of a 10.4 mile VEC 34.5 kV line between Lowell and Jay from 34.5 kV to 46 kV; (4)

16 rebuild of VEC's Jay #17 substation; (5) upgrade of VEC's 2 mile distribution line between the

17 VEC Jay #17 substation and VELCO's 46 kV line.; and (6) a new VELCO Jay Tap Substation.

18 In my testimony, I refer to these necessary upgrades as the "Transmission Facilities."

1 **6. Q.** Please describe VEC’s arrangements with GMP regarding the Transmission
2 Facilities.

3 **A.** VEC and GMP intend to enter into a Transmission Joint Ownership, Construction
4 and Operation Agreement (referred to as the “JOA”). A term sheet for the JOA is included as
5 **Exh. Pet.-CP-5.** As explained in Mr. Pughe’s testimony, VEC will convey to GMP a 58.46%
6 ownership interest as tenant in common in each component of the Transmission Facilities. The
7 JOA allocates the costs to construct the Transmission Facilities to GMP and VEC in accordance
8 with their respective ownership shares and the JOA further requires GMP and VEC to share the
9 ongoing maintenance costs of the Transmission Facilities according to the same ownership
10 shares. VEC will continue to be responsible for the maintenance and operation of, as well as
11 remain the Lead Participant for VELCO and ISO-NE coordination, for the Transmission
12 Facilities.

13

14 **7. Q.** **How does the JOA benefit VEC?**

15 **A.** VEC will realize benefits in the form of cost savings and improved reliability. I
16 discuss the reliability benefits below. As to the cost savings, VEC stands to reduce its costs
17 associated with owning and operating the transmission facilities that are the subject of this
18 petition, since GMP will pay 58.46 % of the costs of initial construction and if the ongoing
19 operation and maintenance of the Transmission Facilities. Thus VEC will be able not only to
20 rebuild a large segment of its transmission system at less than its full cost, it will also realize
21 significant savings in O & M costs over the life of the facilities. VEC can use these savings to
22 leverage our capital budget to fund other construction projects. For example, vegetation

1 maintenance on VEC's existing 10.4 mile 34.5 kV line, which is part of the Transmission
2 Facilities, presently costs VEC approximately \$8,000 per mile once every five years. Under the
3 JOA, VEC will pay only 42.54% of this cost. This will free up vegetation management funding,
4 allowing VEC to accelerate the right-of-way clearing schedule in our vegetation maintenance
5 plan. This cost sharing provision will benefit all other aspects of VEC's maintenance programs
6 in a similar way.

7

8

Section 248(b)(2)-Need

9 **8. Q. Please explain why VEC needs the Transmission Facilities.**

10 **A.** VEC needs the Transmission Facilities for two reasons. First, the Transmission
11 Facilities are necessary to transport the proposed 63 MW of electric energy that the proposed
12 wind generation facility may produce to VEC's system and beyond. The current facilities in the
13 area of the wind project are not sufficient to support its output. So the benefits to VEC of the
14 wind project that Mr. Kieny discusses in his testimony would not be possible without the
15 Transmission Facilities.

16

17 Second, the Transmission Facilities will replace and improve aged VEC facilities and thus
18 improve system reliability. The transmission facilities that VEC and GMP propose to upgrade
19 currently serve VEC members in Lowell, Troy, Westfield and Jay. Three of the Transmission
20 Facilities to be rebuilt -- VEC's Jay 17, Lowell 5 and Irasburg 21 substations -- were specifically
21 identified for upgrade or replacement in the VEC System Condition Assessment that VEC
22 performed in 2008 in response to its Business Process Review and Audit. More specifically, the

1 VEC Lowell 5 substation was constructed in 1954 and the VEC Jay 17 substation in 1969. Each
2 is nearing the end of its useful life.

3
4 In addition, VEC's 10.4 mile 34.5 kV line between Lowell and Jay was built in 1969 and is also
5 nearing the end of its useful life. Although the line has been well maintained, the poles and other
6 wooden components are mostly original and VEC would need to replace the line in the next 10-
7 20 years.

8
9 Further, the new VELCO Jay Tap Substation, which will interconnect with VEC's existing 2-
10 mile distribution line (to be upgraded to 46 kV), will provide many benefits to VEC and the
11 entire northern region. The Jay Tap Substation will: (1) reinforce VEC's 46 kV system that
12 feeds Enosburg, East Berkshire, Richford, Jay, North Troy, Irasburg and Newport; (2) provide
13 another injection point at the mid-point of VEC's 60 mile long northern loop (Highgate to
14 Irasburg); and (3) help to reinforce the area around Jay, which is the fastest growing area in
15 VEC's territory due to the recent construction activities at the Jay Peak Resort. Subject to the
16 completion of an ongoing analysis of VEC's 46 kV transmission system, the new VELCO
17 Substation may also allow VEC to defer other capital improvements on its existing system.

18
19 The proposed new tie between the Lowell – Jay 34.5 kV line and the VEC 46 kV system, which
20 we refer to as our Northern Loop, will also strengthen VEC's system. VEC's members in
21 Westfield, Troy and Jay are presently served by a radial VEC transmission line that originates at
22 the CVPS Lowell Substation. Loss of the VEC radial line results in power outages to the entire

1 area, affecting approximately 600 members served by the VEC Jay 17 Substation. There is no
2 back up source for the Jay 17 Substation. This new tie will also provide a back up to CVPS for
3 the loss of any portion of their 34.5 kV system between VELCO Irasburg and Lamoille County.

4

5 Lastly, the installation of new transformers, breakers and other critical electrical components will
6 improve reliability for many years to come.

7

8

Section 248(b)(3) – System Stability and Reliability

9 **9. Q. Will the Project have any impact on system stability and reliability?**

10 **A.** From VEC's perspective, the Transmission Facilities will significantly improve
11 reliability to the area. As explained above, the Transmission Facilities will replace VEC's aging
12 facilities and provide more redundancy to VEC's system. An ISO-NE sanctioned Feasibility
13 Study has been performed, included in this filing in draft form, and is discussed as part of Mr.
14 Estey's testimony. A System Impact Study will be conducted to assess the affects of the
15 Kingdom Community Wind project on system stability.

16

17

**Section 248(b)(6) – Consistency with Least
Cost Integrated Resource Plan**

18

19

20 **10. Q. Is the Project consistent with VEC's least cost Integrated Resource Plan?**

21 **A.** The Board approved the Transmission and Distribution portion of the IRP on July
22 31, 2009.¹ Section 11.3 of the IRP (T&D Action Plan) describes major capital projects required
23 based on the corrective action plans developed as part of the following three efforts: (1) the

¹ Investigation into VEC's 2008 IRP, Dkt. No. 7449 (7/31/2009).

1 Richford Accident Investigation performed by MPR Associates, (2) the System Condition
2 Assessment performed by MPR Associates, and (3) VELCO's Analysis of VEC's 46 kV
3 Transmission System. The Section 11.3 Supplemental Summary specifically lists the following
4 projects to be rebuilt or upgraded in the near future, all of which will be supported in part or fully
5 funded as part of the Transmission Facilities: (1) the Jay Peak Tap Substation (scheduled for
6 2010), (2) the Newport Center Substation Rebuild/Relocate (scheduled for 2011), (3) the Lowell
7 5 / Irasburg 21 Consolidation & Refurbishment (2010); and (4) the Jay / Troy Consolidations
8 (2010-2011).

9
10 These specific improvements and any others that will improve VEC's transmission system are
11 consistent with VEC's long range Capital Improvement Plan. The cost sharing of the
12 Transmission Facilities will allow VEC to leverage the capital funding plan currently in rates.

13

14 **11. Q. Does this conclude your testimony?**

15 **A.** Yes, it does.