STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6966

Petition of Green Mountain Power Corporation)
for a Certificate of Public Good, Pursuant to)
30 V.S.A. § 248(j) for Authority to Upgrade the)
Transformer at the Wilder Substation #71 to a)
10/14 MVA Transformer)

Order entered: 8/9/2004

I. INTRODUCTION

This case involves a petition filed by Green Mountain Power Corporation ("GMP") with the Vermont Public Service Board ("Board") on May 18, 2004, requesting a certificate of public good ("CPG"), pursuant to 30 V.S.A. § 248(j), in connection with GMP's proposed upgrade of the present 7.5/10/5 MVA transformer at its Wilder Substation #71 to a 10/14 MVA transformer.

Notice of the filing was sent on June 14, 2004, to all parties specified in 30 V.S.A. § 248(a)(4)(c) and all other interested parties. The notice stated that any party wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 needed to file such comments with the Board by July 15, 2004.

Notice of the filing was published in the Valley News on June 17 and June 24, 2004. The notice requested comment by July 15, 2004, as to whether the petition raised a significant issue with respect to the substantive criteria of 30 V.S.A. § 248.

On June 22, 2004, the Town of Hartford ("Hartford") filed a letter stating that GMP's Wilder Substation #71 is located within the Town's wellhead protection area and requested "that adequate safeguards are employed to prevent the release of contaminants into the aquifer." In response to this letter, the Clerk of the Board sent a memorandum to the parties in this Docket requesting that GMP file additional information concerning the proposed upgrades. On July 8, 2004, GMP filed the requested information. On July 15, 2004, the Vermont Department of

Public Service ("Department") filed comments stating that the petition does not raise any significant issues with respect to the substantive criteria of Section 248, and recommending that a CPG be issued for the proposed project.

The Board has reviewed the petition and accompanying documents and agrees that, pursuant to 30 V.S.A. § 248(j), a CPG should be issued without the notice and hearings otherwise required by 30 V.S.A. § 248.

II. FINDINGS

1. GMP proposes to purchase and install a new 10/14 MVA transformer for the Wilder Substation #71 to replace the existing 7.5/10/5 MVA transformer (the "Project"). Kearney pf. at 1.

2. The proposed Project is needed to alleviate capacity constraints in the White River Junction area. GMP operates two distribution substations in that area: the White River Junction Substation #70 (the "WRJ Substation") located in the Town of Hartford; and the Wilder Substation also located in the Town of Hartford. GMP faces two problems in the area. First, with respect to the Wilder Substation, the existing 7.5/10.5 MVA transformer needs to be upgraded to meet winter load, which peaked at 10.1 MVA last winter. Second, due to the significant load growth in the region, transmission is significantly constrained in the area served by the WRJ Substation. The WRJ Substation is supplied by a 13.8 kV transmission line (GMP 1302). The 2003 peak summer load on the 1302 line was 8.6 MVA, or 95% of the still air rating of the conductor. GMP anticipates that the 1302 line capacity will be exceeded by the 2004 summer peak load unless mitigation measures are undertaken. Kearney pf. at 1 – 2.

3. To address the problems in White River Junction described above, GMP and the Department entered into an Area Specific Collaborative for the White River Junction Distributed Utility Planning ("DUP") Target Area (the "ASC"). The ASC considered short-term, intermediate and long-term solutions. The proposed transformer upgrade, together with the conversions described below, were agreed upon by the ASC because they will resolve both problems at the Wilder and WRJ substations on an intermediate-term basis through 2012 and

will allow time to develop and implement a long-term solution. Kearney pf. at 2-3; exh. GMP-PK-1.

4. GMP's proposed solutions to the White River Junction capacity constraints include transferring distribution load to the Wilder Substation over a two-year period: in 2004, a transfer of 1.1 MW to Wilder distribution feeder 71G3; and in 2005, a transfer of 0.5 MW to Wilder distribution feeder 71G2. Kearney pf. at 3.

5. The two Substations peak at different periods, with Wilder peaking in the winter and White River Junction peaking in the summer. In addition, the two areas are experiencing very different growth. The White River Junction area served by the WRJ Substation has experienced significant load growth, while the area served by the Wilder Substation has seen relatively flat growth over the past ten years. These trends are expected to continue for the next five years. The proposed transformer upgrade at Wilder Substation, together with reconfiguration of circuits, will allow GMP to transfer load from the WRJ Substation to Wilder, solving the transmission constraint at White River Junction, while accommodating the Wilder load growth and allowing Wilder to serve as a feeder backup to White River Junction. It is anticipated that the Wilder system could also be used as a first feeder back-up for the Veterans Administration Hospital that is currently being served out of White River Junction. Kearney pf. at 3-4, 7.

6. Because the load on the Wilder Substation peaks in the winter, and transfer of approximately 1.1 MW of load from the WRJ Substation to the Wilder Substation will be completed by late spring 2004, the Wilder transformer upgrade needs to be completed in the fall of 2004, before the peak winter period. Kearney pf. at 4.

7. The proposed Project includes the installation of a larger 10/14 MVA transformer, three larger regulators and an oil containment system, replacement of two distribution circuit reclosers, and upgrade of the supervisory control and data acquisition system (SCADA). The proposed Project will take place within the footprint of the Wilder Substation and will not result in a material change in the height profile or appearance. Kearney pf. at 4; exh. GMP-PK-2.

8. The planned oil containment system will consist of a reinforced concrete pit and foundation. The pit will be designed to contain the entire volume of oil from the new transformer as well as approximately 300 cubic feet of precipitation. The spill containment system will

comply with the U.S. Environmental Protection Agency design criteria for spill containment. Kearney pf. at 5; Kearney sup. pf. (7/8/04) at 2.

9. As noted above, the Wilder Substation has seen slow load growth over the past 10 years while greater load growth has been experienced in the area served by the WRJ Substation. For the 2003-2008 period, load is projected to increase by 0.2 % to 0.5 % annually at the Wilder Substation and by 1 % to 2 % annually at the WRJ Substation. GMP determined that a 10/14 MVA transformer was determined to be adequate to serve these load projections. The 10/14 MVA transformer is the next standard size up from the existing transformer. Kearney pf. at 7; exh. GMP-PK-2.

10. Although the E-Pro Report (exh. GMP-PJK-2) indicates that the upgrade of the Wilder transformer, allowing the transfer of loads from White River Junction to Wilder, will resolve capacity constraints through 2008, the demand side management ("DSM") report prepared by Grimason Associates, LLC, dated February 26, 2004, (exh. GMP-PJK-4) indicates that the problem will be resolved through approximately 2012. Both reports agree that in 2008 the loading at WRJ will be 8.2MVA. By that time, GMP will need to plan for a longer-term solution. The 2008 time frame allows for planning, permitting and construction time for a longer-term solution. The Grimason DSM Report shows 2012 to be the outside date for which the proposed intermediate term solution is adequate, at which time the conductor is at its "burn-down" capacity. Kearny pf. at 6-7.

11. Using the DUP DSM Scoping Tool that was developed in Docket 6290, GMP estimated the maximum amount of load that could be reduced with DSM. The table below examines whether the upgrade to the Wilder Substation could be deferred using DSM even if the loads from the WRJ Substation were not being transferred to Wilder. The last row in the table demonstrates that DSM can reduce loads on the Wilder substation below its rated capacity, but not until 2007. This would require the substation to be run above its rated capacity for the next two years to allow enough time to capture the DSM resource. Therefore, even without loads from the WRJ Substation being transferred to the Wilder Substation, DSM would not be an effective alternative to the larger transformer.

Year	2002	2003	2004	2005	2006	2007
Capacity (MW) without upgrade and with 0.5 % growth	10.1	10.1	10.2	10.2	10.3	10.3
Incremental winter peak savings with DSM as percentage of peak			0.1 %	0.9 %	2.2 %	4.2 %
Cumulative DSM (winter)			0.01	0.09	0.23	0.44
Winter load after DSM & no transfers from WRJ substation			10.1	10.1	10.0	9.9

Kearney pf. at 9, exh. GMP-PK-4.

12. The cost of the proposed Project is approximately $410,000. This includes the new transformer, new voltage regulators, new circuit reclosers, SCADA upgrade and metering. GMP will account for the proposed Project as a capital expenditure. Kearney pf. at 8, exh. GMP-PK-2.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

13. The proposed Project will enhance power reliability and will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. Kearney pf. at 10.

Need for Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

14. The proposed Project is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through conservation programs and measures and energy efficiency and load-management measures. Finding Nos. 2-12 above.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

15. The proposed Project for the reasons discussed above will enhance and will not adversely affect system stability or reliability. Finding Nos. 2-12 above.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

16. By enhancing GMP's system capacity, stability and reliability and deferring construction of a longer-term solution, the proposed Project will result in an economic benefit to the state and its residents. Finding Nos. 2-12 above.

Aesthetics, Historic Sites, Air and Water Purity,
the Natural Environment and Public Health and Safety

[30 V.S.A. § 248(b)(5)]

17. The proposed Project will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and the public health and safety. This finding is supported by Findings 2 through 12 above and Findings 18 through 34 below, which are based on the criteria specified in 10 V.S.A. §§ 1424(a)(d) and 6086(a)(1) through (8), and (9)(K).

Outstanding Resource Waters

[10 V.S.A. § 1424a(d)]

18. There are no watercourses in the vicinity of the proposed Project that have been designated as outstanding resource waters. Kearney pf. at 9.

Water and Air Pollution

[10 V.S.A. § 6086(a)(1)]

19. The proposed Project will not produce any emissions or waste and, accordingly, will not result in undue water and air pollution. Kearney pf. at 9; finding 8, above. This finding is also supported by the specific findings under subcriteria (A) through (G).

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

20. Based on its location at the existing Wilder Substation, the proposed Project will not have an undue adverse impact on any headwaters. Kearney pf. at 5, 9.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

21. Because the proposed Project will not result in the production of any wastes, it will meet all applicable health and Department of Environmental Conservation regulations for the disposal of wastes, and will not involve the injection of waste materials or any harmful or toxic substances into ground water or wells. Kearney pf. at 9.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

22. The proposed Project will not utilize water during or after construction, and, accordingly, the criterion specified in 10 V.S.A. § 6086(a)(1)(C) relating to water conservation is inapplicable. Kearney pf. at 9.

Floodways

[10 V.S.A. § 6086(a)(1)(D)]

23. The proposed Project is not located in a floodway. Kearney pf. at 9.

Streams

[10 V.S.A. § 6086(a)(1)(E)]

24. There are no streams that would be impacted by the proposed Project. Kearney pf. at 9.

Shorelines

[10 V.S.A. § 6086(a)(1)(F)]

25. The proposed Project will not be located near any shorelines. Kearney pf. at 10.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

26. The proposed Project will not result in an undue adverse impact on wetlands. Kearney pf. at 9-10.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. § 6086(a)(2) and (3)]

27. The proposed Project does not require water to function, and thus will not use any significant amounts of water and will not place a burden on any existing water supply. Kearney pf. at 9.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

28. The proposed Project does not involve disturbance of soils other than within the Wilder Substation to install the improved oil containment facilities, and thus will not result in unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result. Kearney pf. at 8.

Transportation System

[10 V.S.A. § 6086(a)(5)]

29. Because the proposed Project involves changes within the existing Wilder Substation, the Project will not cause unreasonable congestion or unsafe conditions with respect to the use of highways, waterways, railways, airports and airways and other means of transportation existing or proposed. Kearney pf. at 5.

Educational Services

[10 V.S.A. § 6086(a)(6)]

30. The proposed Project is unrelated to and, thus, will not cause any burden on the ability of any municipality to provide educational services. Kearney pf. at 1-3 & 10.

Municipal Services

[10 V.S.A. § 6086(a)(7)]

31. The proposed Project will not require any municipal or governmental services. Kearney pf. at 10.

Scenic and Natural Beauty, Aesthetics, Historic Sites and Rare and Irreplaceable Natural Areas

[10 V.S.A. § 6086(a)(8)]

32. Because it will involve only equipment changes and improvements at the existing Wilder Substation, the proposed Project will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas. Kearney pf. at 8.

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. § 6086(a)(8)]

33. Because of its location at the existing Substation, the proposed Project will not destroy or significantly imperil necessary wildlife habitat or any endangered species. Kearney pf. at 10.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

34. The proposed Project will not unnecessarily or unreasonably endanger the public or quasi-public investment in the facilities listed in 10 V.S.A. § 6086(a)(9)(K), or materially jeopardize or interfere with the function, efficiency, safety of, or the public's use or enjoyment of or access to such facilities. Kearney pf. at 1-10.

Least-Cost Plan

[30 V.S.A. § 248(b)(6)]

35. The proposed Project is consistent with the principles for resource selection expressed in GMP's approved least-cost Integrated Resource Plan ("IRP"). Kearney supp. pf. (7/26/04) at 2.[1]

Compliance with Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

36. The proposed Project is consistent with the Vermont Twenty-Year Electric Plan, in accordance with 30 V.S.A. § 202(f). Letter dated July 15, 2004 from the Department.

Outstanding Water Resources

[30 V.S.A. § 248(b)(8)]

37. No waters of the state that might be designated as Outstanding Resource Waters will be affected by the proposed Project. See Finding 18 above.

Existing or Planned Transmission Facilities

[30 V.S.A. § 248(b)(10)]

38. This criterion, which relates to whether the proposed Project can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers, is inapplicable. Findings 2-12 above.

III. CONCLUSION

Based upon all of the above evidence, we conclude that the proposed construction will be of limited size and scope; the petition does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248; the public interest is satisfied by the procedures

1. The information concerning the proposed Project's compliance with GMP's IRP was filed after the deadline for comments (in response to the Board's information request). No party has objected to the proposed Project, and it appears unlikely that this new information would raise any new objections. If any party does believe that the new information raises a significant issue, it may file an appropriate motion to reconsider with the Board.

authorized by 30 V.S.A. § 248(j); and the proposed project will promote the general good of the state.

IV. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that the proposed modifications, in accordance with the evidence and plans presented in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. Section 248, and a certificate of public good shall be issued in this matter.

Dated at Montpelier, Vermont this 9th day of August, 2004.

s/Michael H. Dworkin)
)
) PUBLIC SERVICE
)
s/David C. Coen) BOARD
)
) OF VERMONT
s/John D. Burke)

OFFICE OF THE CLERK

FILED: August 9, 2004

ATTEST: s/Judith C. Whitney
Deputy Clerk of the Board

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: Clerk@psb.state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.