

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7272

Petition of the Village of Johnson Electric)
Department for a Certificate of Public Good)
pursuant to 30 V.S.A. § 248(j) authorizing the)
upgrade of a substation in Johnson, Vermont)

Order entered: 4/24/2007

I. INTRODUCTION

This case involves a petition filed by the Village of Johnson Electric Department ("Johnson" or "Petitioner") on November 30, 2006, requesting a certificate of public good under 30 V.S.A. § 248(j) to upgrade an existing substation for 12.47 kV operation. The substation is located on the property of Johnson State College, in the town of Johnson, Vermont. Johnson submitted prefiled testimony, proposed findings, and proposed order pursuant to the requirements of 30 V.S.A. § 248(j).

On December 14, 2006, the Public Service Board ("Board") issued a memorandum requesting additional information prior to processing Johnson's petition. Johnson filed the required information on February 16, 2007.

Notice of the filing was sent on March 5, 2007, to all entities 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 raised a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 needed to file comments with the Board on or before April 9, 2007. A similar notice of the filing was published in *The Transcript* on March 12 and March 19, 2007.

On April 9, 2007, Johnson filed a letter informing the Board and parties that the cost estimate for the proposed upgrade had risen since the date of the November 30 filing. On April 11, 2007, the Board requested comments on Johnson's April 9 filing.

The only comment received was from the Department of Public Service ("Department"), filed on April 13, 2007, stating that it did not believe that the cost increase would result in a significant rate impact to Johnson customers or that a lower cost alternative to the proposed project existed. The Department supports the issuance of a certificate of public good for the proposed project.

The Board has determined that the proposed construction will be of limited size and scope and that the petition has effectively addressed the issues raised with respect to the substantive criteria of 30 V.S.A. § 248. Consequently, we find that the procedures authorized by Section 248(j) are sufficient to satisfy the public interest, and no hearings are required.

II. FINDINGS

1. The Village of Johnson Electric Department is a company, as defined in 30 V.S.A. § 201. Petitioner is also an organized municipal electric utility under Chapter 79 of Title 30. Petition at 1.

2. Johnson's entire distribution system is served by one substation with a 5 MVA transformer, located near Johnson State College ("College"). The area served by the substation is a mix of commercial, industrial, and residential customers. Johnson State College is the largest user, representing over 25% of system load capacity. Petition at 1-2; Hastings pf. at 2-3.

3. Johnson provides distribution electrical service via a three phase, compact, 4.16 kV system, serving approximately 850 metered customers. The substation is located on property owned by Johnson State College, subject to an agreement between the Company and the College. Johnson's entire distribution system is served by this one substation. Petition at 1-2; Hastings pf. at 2-3.

4. Put in service in 1965, the substation consists of a galvanized steel structure, power transformer, load tap changer, bus regulators, exit circuit reclosers, and other associated equipment (switches, disconnects, fusing, lighting arresters, foundations, fencing, etc.). The 5 MVA transformer steps down the incoming 34.5 kV voltage to 4.16 kV. Petition at 1-2; Hastings pf. at 2-3.

5. Central Vermont Public Service Corporation provides a 34.5 kV radial feeder into the Johnson substation. This feeder is the only transmission source available to the Substation. Hastings pf. at 3.

6. Johnson proposes to upgrade the existing substation for 12.47 kV operation, expand the fence line, replace an existing transformer, and install a new oil containment system. Hastings pf. at 4.

7. Under the proposal, the dimensions of the existing fence line would increase from thirty feet by thirty-five feet to forty-five feet by fifty-four feet for required clearances from electrical equipment in compliance with the National Electric Safety Code. The replacement transformer will be 5 MVA with 34.5 kV primary voltage and 12.5 kV secondary voltage, oil filled, with load tap changer. The oil in the existing transformer will be disposed of in Johnson's waste oil furnace. Hastings pf. at 4; Hastings supp. pf. at 2-3.

8. Johnson proposes to install a number of step-down transformers outside the substation fence-line. The step-down transformer feeding the Johnson State College circuit will be permanent. The remaining step down transformers will be removed as the circuits they feed are eventually converted from 4.16 kV to 12.47 kV. Also, Johnson proposes to temporarily install a 5 MVA transformer inside a temporary self enclosed fence. The temporary transformer will be removed when the substation rebuilding is complete. Hastings pf. at 4-5; Hastings supp. pf. at 3.

9. The proposed upgrade would be constructed in accordance with the most current standards under the National Electrical Safety Code, American National Standards Institute, and Institute of Electrical and Electronics Engineers. Hastings pf. at 4.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

10. The proposed project would 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 municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by findings 11 and 12, below.

11. The proposal upgrades an existing substation and would have little aesthetic impact, with no disruption of the existing landscape. Hastings pf. at 12.

12. Neither the Town of Johnson Municipal Development Plan, nor the Lamoille County Regional Plan have provisions indicating that the proposal would adversely impact orderly development in the town or region. Hastings pf. at 12.

Need for Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

13. 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 energy conservation programs and measures and energy efficiency and load management measures. This finding is supported by findings 14 through 17, below.

14. The existing transformer is just over 40 years old and at the end of its expected life. There currently is no way to feed the system in the event that the transformer fails. In the event of a violent failure, the costs of cleaning up the oil spill would likely be significant. Hastings pf. at 5-6.

15. The existing system is operating near its limit at 4.16 kV. Hastings pf. at 6.

16. Conversion of Johnson's lines to 12.47 kV is the most cost effective option to bolster system reliability and increased transmission capacity and would also reduce line losses. Hastings pf. at 7, 11.

17. The proposed upgrade would improve the system's reliability and the safety of workers at the substation. Hastings pf. at 7-8.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

18. The proposed project would not adversely affect system stability and reliability. The proposed project improves the reliability and stability of the Johnson system by replacing an old transformer which has nearly exceeded its useful life. The increased ampere capacity of the circuits will significantly reduce voltage fluctuations. Hastings pf. at 6, 10-11.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

19. The proposed project would result in an economic benefit to the State by improving the reliability and performance of Johnson's system as the load in the area continues to grow. The proposed project cost is \$447,326. Hastings pf. at 12; letter of April 9, 2007, from Joslyn Wilschek to Susan Hudson.

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

[30 V.S.A. § 248(b)(5)]

20. The modifications as proposed will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and public health and safety. This finding is supported by findings 21 through 47 below, which are the criteria specified in 10 V.S.A. §§ 1424(a)(d) and 6086(a)(1)-(8)(a) and (9)(K).

Outstanding Resource Waters

[10 V.S.A. § 1424(a)(d)]

21. There are no designated outstanding resource waters in the area of the proposed project. Hastings pf. at 13.

Water and Air Pollution

[10 V.S.A. § 6086(a)(1)]

22. The proposed project would not result in undue water or air pollution. This finding is supported by findings 23 and 24, below.

23. The proposed project would not produce dust or require any burning. Emissions associated with the proposed project would be limited to truck and heavy equipment exhaust and will be of limited duration. Hastings pf. at 14.

24. The proposed project will not result in any increased noise. Hastings pf. at 14.

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

25. The proposed project is in a headwaters area. However, the project will not have an undue adverse effect. Erosion prevention and sediment control measures will minimize impacts to the site. Hastings pf. at 15.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

26. The proposed project would meet applicable health and environmental conservation regulations regarding the disposal of wastes, and would not involve injection of waste materials or any harmful toxic substances into ground water. This finding is supported by findings 27 through 30, below.

27. Waste materials and harmful substances would not be discharged to surface or ground water. Hastings pf. at 15.

28. All construction debris from the proposed project would be disposed of at a state-approved landfill. Hastings pf. at 15.

29. The proposed project would not result in significant increases in stormwater flow. Hastings pf. at 15.

30. The oil in the existing transformer has been tested and is non-PCB oil. The transformer oil will be burned in a waste oil furnace. Hastings supp. pf. at 2.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

31. The proposed project would not impact potable water supplies. Hastings pf. at 16.

Floodways, Streams, and Shorelines

[10 V.S.A. §§ 6086(a)(1)(D)(E) &(F)]

32. The proposed project is not located in a floodway or in the vicinity of a shoreline. There is a small intermittent stream on the south side of the substation which is currently culverted under the access drive. There is a small ephemeral drainage on the north side of the substation. Both drain into the Gihon River. Appropriate erosion prevention and sediment control measures will protect the streams from impacts associated with the construction of the proposed project. Hastings pf. at 16-17; exh. DH-4.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

33. The proposed project will not adversely impact wetlands. Hastings pf. at 17.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §§ 6086(a)(2)&(3)]

34. The proposed project would not use water and would not draw on existing water supplies. The proposed project would not impact potable water supplies. Hastings pf. at 17-18.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

35. The proposed project would not result in unreasonable soil erosion or reduce the ability of the land to hold water. This finding is supported by findings 36 and 38, below.

36. A "ground grid" would be installed approximately 8-10' beyond the perimeter of the new fence. In addition, disturbed areas will be seeded and mulched. Hastings pf. at 18.

37. The proposed project would not involve construction of an access road. Hastings pf. at 18.

38. Johnson would utilize an Erosion Prevention and Sediment Control ("EPSC") plan. Under the EPSC plan the relocation of the fence would require the installation of a "ground grid"

around the fence perimeter approximately 8 to 10 feet beyond the new fence. Hastings pf. at 18.

Discussion

Johnson's environmental consultant recommends that proper erosion prevention and sediment control measures be put into place and such measures be "constructed and maintained according to the guidelines established by the State of Vermont's Department of Water Quality in the Vermont Handbook for Erosion Prevention and Sediment Control."¹ We require Johnson to follow this recommendation.

Transportation Systems

[10 V.S.A. § 6086(a)(5)]

39. The proposed project would not cause unreasonable congestion or unsafe conditions with respect to transportation systems. Construction would take place at the substation, which is away from busy streets and state highways. Hastings pf. at 18-19.

Educational Services

[10 V.S.A. § 6086(a)(6)]

40. The proposed project would not cause an unreasonable burden on educational services. Hastings pf. at 19.

Municipal Services

[10 V.S.A. § 6086(a)(7)]

41. The proposed project would not cause an unreasonable burden on municipal services. Hastings pf. at 19.

1. Exh. DH-4.

**Aesthetics, Historic Sites
and Rare and Irreplaceable Natural Areas**

[10 V.S.A. § 6086(a)(8)]

42. The proposed project would not have an undue adverse impact on the scenic or natural beauty of the area, or upon aesthetics, historic sites or rare and irreplaceable natural areas. This finding is supported by findings 43 through 45, below.

43. While the proposed project would expand the fence line and add oil containment, the actual footprint of the substation would not expand significantly. The substation is well screened by steep banks and trees. Petition at 13-14; Hastings pf. at 19.

44. There are no historic or archaeological sites located within the proposed project site. Petition at 13-14; Hastings pf. at 19.

45. The proposed project will not result in any undue adverse effects on rare and irreplaceable natural areas. Hastings pf. at 19; exh. DH-4.

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. § 6086(a)(8)(A)]

46. The proposed project would not impact necessary wildlife habitat or endangered species. Hastings pf. at 19; exh. DH-4.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

47. The substation is not located near any public or quasi-public investments or government or public facilities, services, or lands. Hastings pf. at 20.

Least-Cost Integrated Resource Plan

[30 V.S.A. § 248(b)(6)]

48. The proposed project complies with Johnson's most recent IRP, which recommends investment in the distribution system to reduce line losses. Hastings pf. at 21.

Compliance with Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

49. The proposed project is consistent with the Department of Public Service's Twenty-Year Electric Plan. Hastings pf. at 21-22.

50. The Department filed a determination, in a letter filed on April 13, 2007, that the proposed project is consistent with the Vermont Twenty-Year Electric Plan, in accordance with 30 V.S.A. § 202(f) "provided that the Village of Johnson evaluate competing transformer bids using the Transformer Loss Evaluation Multipliers developed in conjunction with the Department."

Discussion

On April 18, 2007, Johnson filed a letter stating that it would abide by the Department's proposed condition.

Outstanding Resource Waters

[30 V.S.A. § 248(b)(8)]

51. The proposed project is not located near any outstanding resource waters. Hastings pf. at 13.

Existing or Planned Transmission Facilities

[30 V.S.A. § 248(b)(10)]

52. The proposed project can be economically served by existing or planned transmission facilities without undue adverse impact on Vermont utilities or customers. Hastings pf. at 22.

III. REQUIRED VOTE AND ASSESSMENT OF RISKS AND BENEFITS

Johnson is required by Section 248(c) to conduct a vote on the proposed project, and to provide its voters with a written assessment of associated risks and benefits identified by the Board and an assessment of any other risks and benefits determined by Johnson.

The benefits associated with the proposed project include increased reliability and stability for Johnson's system and decreased line losses. The risks associated with the proposed

project involve the financial costs of the upgrade and the limited environmental impacts associated with expanding the fence line of the substation.

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

V. 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 the matter.

Dated at Montpelier, Vermont this 24th day of April, 2007.

s/James Volz _____)

) PUBLIC SERVICE

s/David C. Coen _____)

) BOARD

s/John D. Burke _____)

) OF VERMONT

OFFICE OF THE CLERK

FILED: April 24, 2007

ATTEST: s/Susan M. Hudson
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: psb.clerk@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.