

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6628

Petition of the Village of Enosburg Falls Water and)
Light Department, Inc. pursuant to 30 V.S.A. §248 for a)
Certificate of Public Good authorizing the re-)
construction of its Main Village Substation and related)
improvements)

Hearing at
Montpelier, Vermont
March 18, 2002

Order entered: 3/27/2002

PRESENT: Peter B. Meyer, Hearing Officer

APPEARANCES: Kimberly K. Hayden, Esq.
Primmer & Piper, PC
for Village of Enosburg Falls Water and Light Department, Inc.

Aaron Adler, Esq.
for Vermont Department of Public Service

Warren Coleman, Esq.
for Agency of Natural Resources

I. INTRODUCTION

This case concerns a petition filed by the Village of Enosburg Falls Water and Light Department, Inc. ("Enosburg") on December 19, 2001, requesting a Certificate of Public Good ("CPG") pursuant to 30 V.S.A. § 248, to reconstruct Enosburg's Main Village Substation and related facilities, located at 42 Village Drive, Enosburg Falls, Vermont ("the Project"). These improvements are intended to replace outdated and deteriorated equipment that has reached the end of its useful life.

On February 15, 2002, Enosburg, the Vermont Department of Public Service ("DPS") and the Agency of Natural Resources ("ANR") submitted a stipulation ("Stipulation") in which the parties agreed that the Board should issue a CPG with certain conditions as described in the

Stipulation. In the Stipulation, the DPS reserved the right to raise additional issues based on comments at the public hearing. The Stipulation provides that it will become ineffective if it is not approved in its entirety.

On February 27, 2002, a public hearing was held in Enosburg Falls, Vermont. Notice of the public hearing was sent to all parties and interested persons on February 4, 2002. In addition, notice of the public hearing was published in The St. Albans Messenger and the County Courier on February 7, 2002, and February 14, 2002. The public hearing was held as scheduled at the Public Meeting Room of the Enosburg Falls Fire and Ambulance Station, 83 Sampsonville Road, Enosburg Falls, Vermont. Also on February 27, 2002, a site visit was held at the Main Village Substation. On February 28, 2002, the DPS notified the Board that, in the absence of public comment at the hearing, it would not be raising additional issues.

Notice of the technical hearing was sent on March 4, 2002, to all parties specified in 30 V.S.A. § 248 and all other interested parties. A technical hearing was held on March 18, 2002, at 1:30 p.m. at the Public Service Board Hearing Room, Third Floor, Chittenden Bank Building, 112 State Street, Montpelier, Vermont. No one appeared in opposition to the petition and substantial evidence was presented in support of the petition.

The DPS issued a Determination under 30 V.S.A. § 202(f) on February 26, 2002.

II. FINDINGS

Based upon the substantial evidence of record and the testimony presented at the hearing, I hereby report the following findings to the Board in accordance with 30 V.S.A. § 8.

Background and Existing Facilities

1. Enosburg is a company as defined in 30 V.S.A. § 201. It is also a duly organized municipal electric utility under Chapter 79 of Title 30. Pet. at 1.
2. Enosburg's offices are located in the main Village municipal office building, at 42 Village Drive, RR #4, Box 80, Enosburg Falls, VT 05450. Pet. at 1.
3. Pursuant to §§ 219, 2801, and 2802 of Title 30, Enosburg has a "duty to serve" those customers located within its service territory, including those served in the Town of Enosburg, Vermont, and surrounding service territory. Pet. at 1.

4. Enosburg seeks a CPG under 30 V.S.A. § 248 to authorize it to reconstruct its existing Main Village Substation, which is located directly behind the Enosburg Falls Village Municipal Offices. The improvements are needed in order to replace outdated, deteriorated and unsafe facilities with new facilities offering improved safety, reliability, and efficiency. Pet. at 1.

5. Enosburg presently receives service from Citizens Communications Company's 46 kV transmission line that runs east to west through Enosburg's service territory. An approximate two-mile tap extends from this transmission line in a southerly direction and enters Enosburg's Main Village Substation, where it is connected to the Substation's 46 kV structure. Carroll pf. at 2; Pet. exhs. LFC-2, LFC-3.

6. The 46 kV structure is connected to an adjacent 7.5 MVA 46/12.47 kV step-down transformer, which feeds three 12.47 kV distribution circuits known as the Cheese Plant, West Enosburg, and Samsonville Circuits. The secondary bus is also connected to two transformer banks, which further step-down the distribution voltage to 2.4 kV-delta. Carroll pf. at 2-3.

7. The larger of these transformer banks contains three 500 kVA transformers, which are ground mounted and contained within a fenced location approximately 20 feet from the primary 46/12.47 kV transformer location. The secondary side of this step-down transformer bank connects to one of the 2.4 kV oil circuit breakers located inside Enosburg's Village Office Building, which in turn feeds the 2.4 kV bus that provides 2.4 kV distribution circuits, and to which Enosburg's Hydro #1 Unit and its Diesel Unit also provide power. Carroll pf. at 3; Pet. exh. LFC-4.

8. The smaller 12.47/2.4 kV transformer bank consists of three 333 kVA platform-mounted transformers and is connected through fuses directly to the Main Street 2.4 kV distribution circuit. Carroll pf. at 3-4; Pet. exh. LFC-5.

9. Above the bank of 500 kVA transformers is a set of two H-frame configured poles, and from this location all of the 2.4 kV distribution circuits and two of the 12.47 kV circuits leave the substation area, and in the same direction. The 2.4 kV circuits proceed to a third H-frame structure approximately 100 feet to the east, from which they begin to disperse, while the two 12.47 kV circuits are routed to another H-frame structure (on which the three 333 kVA transformers are platform mounted). Between the two H-Frame structures (for the 2.4 kV

circuits) the conductors are configured in a crisscrossing matrix of some five circuits wide and up to three circuits tall. Carroll pf. at 4; Pet. exh. LFC-6.

10. Overall, the secondary side of the substation facilities appears to be extremely aged, and is showing major signs of fatigue. Most of the 2.4 kV conductor appears to be reaching the end of its useful life, and shows visible signs of deterioration such as flaking insulation, corrosion, sagging, and other signs of fatigue. The switchgear was constructed during World War II, and replacement parts are non-existent. Conduits and poles around the 2.4 kV substation area show burn marks, melting, and numerous other signs that arcing and lightning strikes are a frequent occurrence. The H-Frame structures are beginning to show signs of rot, and will need to be replaced in the near term. Carroll pf. at 5.

11. In addition, although not related to the physical condition of the equipment, many of the conductors cross at difficult angles, and equipment appears to have been installed wherever space allowed without regard for maintenance or safety issues. The system as it exists presents a clear danger to any lineman required to work on the 2.4 kV matrix existing at the substation location. Due to the angles at which lines cross, and their proximity to one another, it would be extremely difficult for a lineman to be certain that he/she had eliminated all voltage on the circuit being maintained. This hazard is compounded by the age of the associated equipment and conductors that are clearly prone to fracture or breaking under small amounts of stress. It is clear from even a brief inspection that the entire Enosburg system would need to be de-energized to safely perform upgrades or maintenance within the existing 2.4 kV substation facilities. Carroll pf. at 5-6.

12. On the other hand, the primary facilities of the Substation, particularly the 46/12.47 kV transformer, 600 Amp main substation breaker, and primary bus structure, appear to be in excellent condition. The only noticeable issue with the primary transformer facility is that it was constructed on a flat concrete pad, and does not have oil containment facilities. From a maintenance standpoint, the primary facilities are easily accessible, meet safety code requirements, and represent a perfectly acceptable design. Carroll pf. at 6.

Project Description

13. The primary focus of the Project is to eliminate the safety hazards posed by the existing secondary configuration, and to eliminate the aesthetic problems posed by the mass of distribution circuits emanating from the Main Village Substation site. As part of the upgrade, Enosburg also plans to add oil containment facilities for the 46/12.47 kV step-down transformer and voltage regulators. Carroll pf. at 7-8.

14. Enosburg's engineering design consultant, Lee F. Carroll, identified five different alternative configurations for the substation design. Following issuance of a CPG for the Project, Enosburg plans to place the Project out to bid and will request bidders to make proposals for the five alternatives, which will include the following:

- (1) Existing 46 kV substation structure and transformer with main breaker not relocated (oil containment added with existing transformer in service);
- (2) Secondary (12.47 kV) substation structure configured for seven distribution circuits (at new location approximately 100 feet west of the office building and further from public view);
- (3) Secondary substation structure configured for five distribution circuits (at new location), expandable in the future;
- (4) New 46 kV substation structure, with new transformer and new breaker, at new location together with secondary structure, with secondary structure options as in 2 and 3 above; and
- (5) Same as option 4, except relocate existing 46 kV transformer and main breaker to the new structure, necessitating a portable transformer during change over.

Carroll pf. at 7; Pet. exhs. LFC-7 through LFC-13.

15. Under all five options, the secondary structure will be moved to a new location (with oil containment). However, depending on the option chosen, the 46 kV structure, transformer, and main breaker will either remain in the same general location (with oil containment and new fencing as required), or the complete substation structure (primary and secondary) will be shifted to the new location. Pet. revised exhs. LFC-16 through LFC-19 (physical diagrams of site plans), and Pet. exhs LFC-22 and 23 (photographs of new substation location).

16. The various options were selected to provide flexibility and ensure that the final installation utilizes the limited funds that will be available in the best interests of Enosburg. Carroll pf. at 7.

17. Physically, the new substation would encompass a 20-foot by 40-foot area to be constructed approximately 100 feet to the west (behind) of the existing 46/12.47 kV substation location. The regulators contained in this station would be placed on pedestals, and located inside a tub-configured oil containment system. Other equipment such as reclosers would be placed in vaults mounted to substation structural members, or on concrete pads as appropriate, and the entire substation would be surfaced with crushed stone and contained by a wire mesh fence. The design would comply with all National Electrical Safety Code requirements presently in effect. Screen planting would be used as necessary, and possibly based on the capability of the exposed ledge outcropping to support them, to minimize visual impacts. Carroll pf. at 10.

18. Should the existing primary structure and transformer location be retained, underground secondary conduits from the main breaker (four ducts, 4" or 5" non-metallic conduit) would be routed to the new secondary structure and voltage regulators. If the primary structure and transformer location transfers to the new secondary substation area, cabling will likely be overhead between the breaker and the regulators. Carroll pf. at 8.

19. Once inside the new (secondary) substation area, the source would connect to a set of new 167 kVA or larger regulators, which would be enclosed in a separate oil containment tub that will conform to federal and state regulations. The voltage regulators would connect to a new 12.47 kV overhead cable/bus structure in a rectangular configuration. The cable/bus would be mounted on supports designed in accordance with appropriate safety code requirements and would provide connections to the secondary structure feeder positions, either up to five or seven depending upon the configuration selected for the 12.47 kV structure. Carroll pf. at 8.

20. The initial plan calls for five of the 12.47 kV structure outgoing circuits to be utilized. Each would contain a new vacuum-style distribution recloser, with new bypass switches for ease of maintenance. These five operational positions would serve the three existing 12.47 kV circuits (Cheese Plant, West Enosburg, and Samsonville), provide a connection to the 2.4 kV

loads (on an interim basis) as well as connection of the Enosburg Hydro #1 and Diesel Unit, and establish a new "St. Albans Street" 12.47 kV circuit. Carroll pf. at 8-9.

21. Enosburg's Hydro #1 and Diesel Unit would continue to pass through the 2.4 kV switchgear as they do at present, and would continue to utilize underground conduit to exit the Village offices. However, upon leaving the building they would be connected to a new 1500 kVA 2.4/12.47 kV pad-mounted step-up transformer located just outside the new substation and approximately one-half way between the Village offices and the riser pole structure for the three 12.47 kV circuits crossing the river. The transformer would present a low profile to limit aesthetic impacts, and would be screened as appropriate. The 12.47 kV side of this transformer would be connected to the northern-most recloser position on the east side of the new substation, thereby tying Enosburg Falls' generation into the substation bus. Carroll pf. at 9.

22. Enosburg's Hydro #2 would be disconnected from the Samsonville circuit. The pad-mounted 480V/12.47 kV transformer would remain in place. However, instead of the service connecting to the Samsonville circuit, it would leave the hydro facility in a Hendrix configuration, and would be routed diagonally across the canal/river entering the Hydro #1 facility (down river from Hydro #2). Overhead construction would carry the Hydro #2 cable on the same poles now carrying the Hydro #1 cables to the top of the hill (screened by the Village Office building). At the top of the hill it would convert to underground and connect to the 12.47 kV circuit used for the transformer connection to the 2.4 kV Hydro #1 and Diesel Units. Carroll pf. at 9-10; Pet. revised exh. LFC-14.

23. All of the circuits would exit the 12.47kV substation via underground getaways utilizing 4/0 AWG conductor enclosed in 5" PVC conduit. The St. Albans Street Circuit would leave to the east, emerging approximately 150 feet behind the Village Wastewater Treatment Facility. It would then convert to overhead Hendrix construction at a new pole location. From there it would connect to a new pole location used to serve the Wastewater Treatment Facility (located below the existing bank and shielded from most observation), and finally would enter the existing St. Albans Street right-of-way. Carroll pf. at 10-11.

24. The other three circuits (Cheese Plant, West Enosburg, and Samsonville) would exit the rear of the new substation toward the southeast. These circuits would run approximately 200

feet underground before emerging and converting to overhead Hendrix construction at the existing first pole for the Cheese Plant circuit. The existing single dead-end pole would be converted to a two-pole structure in order to support the multiple risers required. From this location, the three circuits would be held in a triple circuit single pole Hendrix configuration, following the existing Cheese Plant Circuit right-of-way behind the Village offices and across the Missisquoi River approximately three spans from the offices. Once across the river they would continue in Hendrix construction for one or two additional spans until they separated to serve their various loads. At this point they would be converted to and connect to existing open span construction. Carroll pf. at 11.

25. Concurrent with the proposed substation upgrades, Enosburg Falls intends to increase the voltage on the St. Albans Street and North Main Street to 12.47 kV circuits, and to connect the existing Main Street, Church Street, School Street, and sewage plant services to either the Cheese Plant or St. Albans Street circuits. All of the load on the west side of Main Street would be connected to the St. Albans Street circuit, and all of the load on the east side of Main Street would be connected to the Cheese Plant circuit. This configuration would split the Village load between the two 12.47 kV circuits and provide the potential for looping of the Village service. Carroll pf. at 12.

26. Initially the side taps would be served through 12.47/2.4 kV step-down transformers. However, these taps would eventually be converted to serve the Village interior directly at 12.47 kV. This voltage upgrade is essential for Enosburg Falls to complete the removal of the existing 2.4 kV circuitry around the Village offices, as well as the existing banks of three 500 kVA and three 333 kVA transformers, and most of the conductor presently running (in three separate visually unattractive circuits) up Enosburg Falls' Main Street. Carroll pf. at 12; Pet. exh. LFC-15.

Stipulation

27. On February 15, 2002, Enosburg, the DPS and ANR submitted a Stipulation, which states that the parties agree that the Board should issue a CPG for the proposed Project provided that all of the terms of the Stipulation are met. Exh. Joint-1 at 2.

28. In the Stipulation, the parties agree that the Board should include the following conditions in a CPG for the Project:

(a) Prior to commencement of construction on the Project, Enosburg shall file and obtain Board approval of a detailed statement identifying the chosen substation configuration and describing the justification for the choice of that configuration.

(b) Prior to purchasing a new transformer for the Project, Enosburg shall file and obtain Board approval of an analysis demonstrating that the chosen transformer is the least-cost option under the societal test.

(c) Within 30 days of the date on which construction of the Project is completed, Enosburg shall review the Project with the Board's staff, the Department and ANR to determine whether plantings and landscaping will be necessary to address visual impacts of the Project. If any plantings and landscaping are found to be necessary, Enosburg shall prepare and submit, within 60 days of the review, the necessary plans to the Board for approval. All plantings and landscaping shall be completed within one year of Board approval.

(d) On or before February 22, 2002, Enosburg shall file amended exhibits LFC-14, 16, 17, 18, 19, 20, and 25, the understanding being that such amended exhibits shall be made consistent with, and shall correspond to, the descriptions contained in the December 19, 2001, prefiled testimony of Lee F. Carroll submitted in this matter, of the matters to which those exhibits relate. In the event of conflict between Mr. Carroll's prefiled testimony and the exhibits attached to that testimony, the prefiled testimony shall control.

(e) Enosburg shall:

(i) Use appropriate practices for erosion control and site management, consistent with the Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites (available from ANR);

(ii) Seed disturbed areas following construction activity for the reconductoring of the 12.47 kV circuits (located on the island area) with an annual grass to allow for the return of native vegetation to the site; and

(iii) Not engage in significant clearing of large vegetation, such as trees.

Exh. Joint-1 at 3.

29. The Stipulation contains other provisions, including but not limited to provisions relating to Enosburg's providing the DPS and ANR with copies of, and the DPS' and ANR's

opportunity to comment on, all filings made under the Stipulation, as well as provisions relating to the Stipulation's ineffectiveness if it is not approved in its entirety, its non-precedential nature, and the parties' acknowledgment of the Board's continuing jurisdiction to resolve disputes arising under the Stipulation. Exh. Joint-1 at 4, 5, 6.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

30. The Project 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 municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by findings 31 through 34, below.

31. The community of Enosburg Falls itself has been working very hard over the past seven years to improve the infrastructure in the community and to give the Village facilities a face-lift. A description of the community and its "Vision for the Future" was prepared as part of the Village's petition for a Federal grant from the US Department of Commerce, Economic Development Administration ("EDA") to upgrade the Village's utilities infrastructures. As noted in the Village description, this includes a wide range of interests and benefits, from recreation to industrial development. Underhill pf. at 4; Pet. exh. CJU-2.

32. Renovation of the existing substation and conversion of the Village Center from 2.4 kV to 12.47 kV is important to each of the separate but related goals in the Village's "Vision for the Future," in that they will allow elimination of the inefficient and visually unattractive multiple parallel 2.4 kV circuits now running through downtown. Underhill pf. at 11; Pet. exh. CJU-2.

33. The planned replacement of the substation complies with the Northwest Regional Planning Commission's Plan for the Region 1999-2004 (the "Plan"). As a general goal under Energy Goals, Policies, and Objectives, the Plan calls for entities to "Encourage conservation and efficient use of energy, thereby saving the Region's financial resources and the world's energy resources." (Plan at 7.19). Underhill pf. at 11.

34. In addition, this Project conforms to a number of the specific policies denoted in the Plan (Plan at 7.19):

7.1 In the evaluation of all energy projects, those with the least adverse environmental, aesthetic, economic, and social impacts are preferred.

7.2 A broad range of options that could meet energy needs should be considered when evaluating energy-related projects, including conservation, efficiency, and education, and those with the least adverse environmental, aesthetic, economic, and social impacts evaluated in the short and long-term should be supported.

7.4 Efforts that reduce the emission of pollutants from energy production and/or consumption, particularly greenhouse gases and contributors to ozone depletion, should be strongly supported.

7.5 Promote least-cost planning, or life cycle costing, which considers all costs of energy production and use, including environmental and social costs, from the origination of inputs to the disposal.

7.6 Generation, transmission, and distribution lines or corridors should *avoid* adverse impacts on significant wetlands, plant and animal habitat, and recognized historic, natural, or cultural resources.

Underhill pf. at 11-12.

Need For Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

35. The Project meets 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, since the Project improvements are primarily intended to address serious safety and reliability concerns. This finding is supported by findings 10 through 13, above.

36. In addition, the Project will reduce existing line losses by reconfiguring the system to allow upgrading portions of the distribution system from 2.4 kv to 12.47 kv. Enosburg estimates that the reduction in line losses will result in annual savings of approximately \$19,195.

Underhill pf. at 9.

37. The line loss savings that are estimated to result from this Project are incremental and not mutually exclusive to the savings potential of DSM programs provided at the customer meter, either by Enosburg or Efficiency Vermont. Since the Project relates to a core function on

the system, it cannot be avoided, deferred, or scaled back. In this case, the substation is what ties the system together. Underhill pf. at 10.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

38. The Project will improve system stability and reliability, by replacing fatigued, worn and unreliable equipment and facilities, and providing a looped configuration to serve the Village load. This finding is supported by findings 4 through 26, above.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

39. The Project will result in an economic benefit to the State. This finding is supported by findings 40 through 42, below.

40. The estimated cost to construct the Village substation improvements, re-conductor, and perform voltage upgrades is \$1,098,150. Underhill pf. at 6. In the Stipulation, Enosburg agrees that, prior to commencement of construction, it will file and obtain Board approval of a detailed statement identifying the final chosen Project configuration and describing the justification for the choice of that configuration. Exh. Joint-1 at 2.

41. In order to mitigate the cost of electric system improvements, Enosburg has received a Financial Assistance Award from the US Department of Commerce EDA, to apply towards the cost of the planned electric system improvements, along with improvements to Enosburg's water and sewer systems. The portion of the grant available for electric infrastructure improvements will offset the total cost of the Project to Enosburg by approximately \$400,000, resulting in reduced capital investment and a lower impact on rates. Underhill pf. at 6-7; Pet. exh. CJU-3.

42. In addition, the annual loss savings from increasing system voltage to 12.47 kV will reduce annual operating expenses. See finding 36, above.

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

[30 V.S.A. § 248(b)(5)]

43. The Project as proposed 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 44 through 70, below, which are based on the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8), 8(A) and (9)(K).

Outstanding Resource Waters

[10 V.S.A. § 1424a(d)]

44. The Project does not involve a facility affecting or located on any segment of water designated as outstanding resource waters. The new substation will be constructed adjacent to the existing facilities located behind the Village offices, on a rock outcropping that is several hundred feet from the nearest river location. Where the new circuits cross the Missisquoi River, Enosburg will use accepted construction techniques such that ropes and conductors will not drag the river bottom or impact the river banks. Underhill pf. at 18.

Water and Air Pollution

[10 V.S.A. § 6086(a)(1)]

45. The Project as proposed will not result in undue water or air pollution. This finding is supported by findings 46 through 48, below.

Water Pollution

46. The existing Cheese Plant circuit crosses the Missisquoi River and will be modified to accommodate the three existing 12.47 kV circuits at the river crossing. Enosburg has agreed to undertake construction techniques and soil erosion control measures such that the Project will not have an undue adverse effect on these waters. This finding is supported by findings 28 and 44, above.

47. The facilities and site will be positively impacted by the Project, since oil containment facilities will be installed for the 46/12.47 kV transformer and the regulators. These installations will be in accordance with applicable federal oil spill prevention requirements, and thus will be a significant improvement. Underhill pf. at 17; findings 51-55, below.

Air Pollution

48. There are no incremental or undue impacts to air quality from the installation of the Project. Any impact would be minor, temporary in nature, and associated with minimal dust that may be caused by vehicles during construction. Any dust generated will be controlled, as warranted, using construction techniques appropriate to the site. Underhill pf. at 17.

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

49. The Project will not have an undue adverse effect on any headwaters of the state. Underhill pf. at 18; findings 44-47, above.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

50. The Project will meet all applicable health and environmental conservation regulations regarding the disposal of waste. Construction debris and all materials not re-used from the old substation will be disposed of properly: metal items of value not containing oil will be sent for reclamation; disposal of oil-containing or other materials will be handled by appropriate authorized contractors; and inert debris without reclamation value will be sent to state-approved landfills. Underhill pf. at 17.

51. If the ultimate Board-approved configuration uses the existing 46/12.47 kV transformer in its present location, oil containment will be addressed as follows: Enosburg will construct a concrete catch basin structure that would utilize the existing transformer pad as its center. The existing location is built primarily on ledge, which will not allow for oil to penetrate and runoff below ground, but which does promote above-ground runoff. The proposed oil containment would be composed of a concrete tub design, which would surround the existing transformer pad, and contain any oil spill until such time as clean up crews could be activated. Carroll pf. at 13.

52. If the ultimate Board-approved configuration includes relocation of the 46/12.47 kV transformer, Enosburg will install a tub-configured oil containment system with a construction similar to that described in finding 51, above. Carroll pf. at 10.

53. The oil in the main circuit breaker at the substation will be included in the containment vessel for the 46/12.47 kV transformer as both items are physically located on the same concrete pad. The container will comply with all applicable state and federal laws. Carroll pf. at 13.

54. A similar construction will be built beneath the regulators in the new substation to contain any oil leakage they may encounter. No other equipment in either substation location will contain oil. If the substation transformer is relocated, then the new pad will have the appropriate oil containment structure incorporated into its design and construction. Again, the containment will comply with all applicable state and federal laws. Carroll pf. at 13.

55. The pad-mount step-up transformer (for the generation sources) will be installed on a concrete pad, and will be enclosed in a vault-type cabinet. The pad and cabinet will be designed to contain any oil spills associated with this unit, also in compliance with applicable federal and state requirements. Carroll pf. at 13-14.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

56. The Project will not require the use of water during or after construction, except water used to control dust, if any, from construction. Underhill pf. at 18.

Floodways and Wetlands

[10 V.S.A. §§ 6086(a)(1)(D) and 6086(a)(1)(G)]

57. The Project is not located in a floodplain or wetland. Underhill pf. at 18

Streams and Shorelines

[10 V.S.A. §§ 6086(a)(1)(E) and 6086(a)(1)(F)]

58. The existing Cheese Plant circuit crosses the Missisquoi River and will be modified to accommodate the three existing 12.47 kV circuits at the river crossing. Enosburg has agreed to undertake construction techniques and soil erosion control measures such that the Project will not have an undue adverse effect on these waters. This finding is supported by findings 28 and 43, above.

**Sufficiency of Water And Burden on
Existing Water Supply**

[10 V.S.A. § 6086(a)(2)&(3)]

59. There will be no burden on existing water supplies because the Project will not require the use of water during or after construction, except water used to control dust, if any, from construction. Underhill pf. at 18.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

60. The Project will not result in unreasonable soil erosion or reduce the ability of the land to hold water. This finding is supported by findings 28 and 46, above. In addition, in the Stipulation Enosburg has agreed to conditions in the CPG to address soil erosion. Finally, Enosburg has also agreed to a condition in the CPG that will require the submission of a detailed site-specific erosion control plan for Board review and approval with the submission of the final detailed plans for the substation. Exhibit Joint-1 at 2; tr. at 9.

Traffic

[10 V.S.A. § 6086(a)(5)]

61. The Project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. The substation work and most of the 12.47 kV reconductoring will take place behind the Village offices and away from the main streets. Underhill pf. at 20.

Educational and Municipal Services

[10 V.S.A. §§ 6086(a)(6) and 6086(a)(7)]

62. There will be no impact upon educational services, and with the exception of the 2.4 kV to 12.47 kV distribution upgrades to be phased in, most of the engineering and construction work will be handled by outside consultants and contractors. The Project is expected to improve system reliability and worker safety will be enhanced. Underhill pf. at 20.

**Aesthetics, Historic Sites or Rare
And Irreplaceable Natural Areas**

[10 V.S.A. § 6086(a)(8)]

63. The Project will not have an undue adverse effect 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 64 through 70, below.

64. There are no known historic sites or rare or irreplaceable natural areas in the area of the proposed installation. Underhill at 13.

65. Enosburg has agreed that its reconductoring of the 12.47 kV circuits crossing the Missisquoi River will be performed such that there will be minimum impact upon soils and existing vegetation. *See* Findings 28, 44 and 46, above.

66. All of the facilities proposed by Enosburg Falls are planned for locations already devoted to utility infrastructure, and because of advances in engineering and utility practice over the period since the old facilities were built, the new facilities will inherently be of better design from an environmental standpoint. Since the areas in question are already devoted to utility structures, no significant clearing of large vegetation such as trees will be needed. Underhill pf. at 14.

67. A primary purpose for this Project is to eliminate safety problems associated with the existing system configuration and conditions. Thus, the Project will have a positive benefit on public health and safety. Underhill pf. at 14.

68. The Project will significantly improve the aesthetics of the site by eliminating the old and congested substation and distribution facilities surrounding the Village offices and along the Main Street. In addition, the relocation and consolidation of the existing lines that cross the Missisquoi River will significantly improve the appearance of the area near the falls. Underhill pf. at 14, 15.

69. The Village of Enosburg Falls also received a grant and completed work to restore the historic Bridge of Flowers and Light over the dramatic waterfalls which give the Village its name, located adjacent to Enosburg's office building. The Project will significantly enhance the

area near the newly renovated bridge, the aesthetics of which are a very significant concern to Enosburg. Underhill pf. at 14-16; Pet. exh. CJU-5 through 9.

70. In the Stipulation, Enosburg agreed to a condition involving a post-construction site inspection and determination regarding whether the Project requires additional plantings and landscaping. Exh. Joint-1 at 2.

Discussion

Based on the above findings, I recommend that the Board find that this proposed Project will not have an undue adverse effect on the aesthetics or scenic and natural beauty of the area. In reaching this conclusion, the Board has relied upon the Environmental Board's methodology for determination of "undue" adverse effects on aesthetics and scenic and natural beauty as outlined in the so-called Quechee Lakes decision. Quechee Lakes Corporation, #3W0411-EB and 3W0439-EB, dated January 13, 1986.

As required by this decision, it is first appropriate to determine if the impact of the proposed Project will be adverse. The proposed Project would have an adverse impact on the aesthetics of the area if its design is out of context or not in harmony with the area in which it is located. If it is found that the impact would be adverse, it is then necessary to determine that such an impact would be "undue." Such a finding would be required if the proposed Project violates a clear written community standard intended to preserve the aesthetics or scenic beauty of the area, if it would offend the sensibilities of the average person, or if generally available mitigating steps will not be taken to improve the harmony of the proposed Project with its surroundings.

Given the facts of this case, it is difficult to find that this proposed Project would have an adverse effect on the aesthetics of the area. The proposed Project's aesthetic impact is consistent with and in fact vastly improves the character of existing substation facilities and area surrounding the Village offices and the Missisquoi Falls.

Even if the Board determines that this proposal would have an adverse impact, this impact would not be unduly adverse. Regarding the three prongs of this part of the "Quechee test:" first, the Project does not violate a clear written community standard intended to preserve the aesthetics or scenic beauty of the area, and in fact is consistent with Enosburg's "Vision for

the Future." Second, the proposed Project will not be "shocking or offensive" to the average person; in fact, the existing facilities to be removed or relocated are somewhat shocking, and their removal will be a significant improvement. Moreover, the new facilities will be installed in areas with existing concentrations of electric transmission facilities and equipment. Finally, the proposed Project is adequately mitigated by the existing screening provided by the village offices, the existing area vegetation, and possible additional plantings if necessary. Through the Stipulation, Enosburg has agreed to consult with the DPS, ANR and the Board following construction of the Project, to determine if any additional landscaping is appropriate or necessary to mitigate the Project's impacts.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

71. The Project will enhance the safety, reliability and aesthetics of the Village's electrical facilities. Underhill pf. at 20.

Public Health and Safety

[30 V.S.A. § 248(b)(5)]

72. The Project will not have adverse effects on the health, safety, or welfare of the public or adjoining landowners, but in fact will improve the public health and safety. This finding is supported by findings 10 through 26, above.

Compliance with IRP

[30 V.S.A. § 248(b)(6)]

73. Enosburg received approval of its least-cost IRP from the Board on January 17, 1996. As part of the IRP, Enosburg committed to perform an efficiency study of its distribution system using criteria outlined in the DPS 20-Year Electric Plan. Such a study was completed and the results filed with the DPS in June, 1996. Section 2 of that study recommended the type of upgrades to the Main Village Substation proposed by Enosburg in this docket. Underhill pf. at 8; Pet. exh. CJU-1.

74. In the Stipulation, Enosburg has agreed to submit and seek Board approval of: (a) prior to commencement of construction, a detailed statement identifying the ultimately chosen Project configuration and the justification for that choice; and (b) prior to purchasing a new

transformer for the Project, an analysis demonstrating that the chosen transformer is the least-cost option under the societal test. Exh. Joint-1 at 2.

Compliance With Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

75. The DPS determined, in a letter dated February 26, 2002, that the proposed Project is consistent with the Vermont 20-Year Electric Plan, in accordance with 30 V.S.A. § 202(f), provided the proposed Project is constructed as described by Enosburg and provided that Enosburg complies with the terms of the Stipulation among the DPS, ANR and Enosburg in this matter. Exh. DPS-1. In addition, in the Stipulation, Enosburg has agreed to submit and seek Board approval of: (a) prior to commencement of construction, a detailed statement identifying the ultimately chosen Project configuration and the justification for that choice; and (b) prior to purchasing a new transformer for the Project, an analysis demonstrating that the chosen transformer is the least-cost option under the societal test. Exh. Joint-1 at 2.

Outstanding Water Resources

[30 V.S.A. § 248(b)(8)]

76. No waters of the state that have been designated as Outstanding Resource Waters will be affected by the proposed Project. This finding is supported by finding 44, above.

Existing Transmission Facilities

[30 V.S.A. § 248(b)(10)]

77. This proposed Project will have no adverse affect on Vermont customers or utilities, and should improve existing facilities and the reliability of electric service to Enosburg's customers. This finding is supported by findings 4 through 26, and 38, above.

Conclusion

Based upon all the above evidence, the proposed Project:

- (a) 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, and the recommendations of the municipal legislative bodies;

- (b) 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 land management measures;
- (c) will not adversely affect system stability and reliability;
- (d) will result in an economic benefit to the state and its residents;
- (e) will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and the public health and safety, with due consideration having been given to the criteria specified in 10 V.S.A. § 1424a(d) and § 6086(a)(1) through (8) and (9)(K);
- (f) is consistent with the principles of least-cost integrated planning;
- (g) is in compliance with the electric energy plan approved by the DPS under § 202 of Title 30 V.S.A.;
- (h) does not involve a facility affecting or located on any segment of the waters of the State that has been designated as outstanding resource waters by the Water Resources Board; and
- (i) can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers.

Accordingly, I recommend that the Board issue a CPG for the proposed Project.

To the extent these findings are inconsistent with any proposed findings, such proposed findings are denied.

The parties have waived the opportunity to comment on this Proposal for Decision in accordance with 3 V.S.A. § 811.

Dated at Montpelier, Vermont, this 27th day of March, 2002.

s/Peter B. Meyer
Peter B. Meyer
Hearing Officer

III. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that:

1. The reconstruction of Enosburg's Main Village Substation facilities and related line improvements, in accordance with the evidence and plans submitted in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. § 248, and a certificate of public good to that effect shall be issued.
2. The Stipulation, jointly executed and submitted by Enosburg, the DPS and ANR on February 15, 2002, is accepted and approved. Enosburg shall comply with all terms of the Stipulation. Enosburg shall undertake all actions, perform all evaluations and analyses, and make all filings required by the Stipulation.
3. Enosburg shall file a detailed site-specific erosion control plan for Board review and approval with its filing of the final detailed design of the substation.
4. The Board has continuing jurisdiction to resolve any disputes arising under the above-referenced Stipulation.

Dated at Montpelier, Vermont, this 27th day of March, 2002.

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

OFFICE OF THE CLERK

FILED: March 27, 2002

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 mail) of any apparent, 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.