

review under 30 V.S.A. § 248." CVPS's petition did not request approval for the year-2000 transformer replacements.

On July 20, 2005, the Board issued a memorandum requesting that the Vermont Department of Public Service (the "Department" or "DPS") comment, by July 26, 2005, on whether the petition should be amended to include the year-2000 transformer change out. On July 26, 2005, the Department filed a letter stating that:

It is the opinion of the Department that based upon the Board's ruling in Docket Nos. 5841/5859, *Investigation into Citizens Utilities*, Order of 6/19/97, that CVPS should have known that the replacement of a 5 MVA 46/12.47 kV transformer with a 10 MVA 46/12.47 kV transformer constituted a "substantial change" subject to Board approval. Accordingly, it is the recommendation of the Department that the 2000 change out be amended into the current filing.

On August 15, 2005, the Board issued a memorandum requesting that CVPS either amend its petition to request approval of the transformer replacements at its Bethel and Mt. Holly substations, or explain why CVPS believes that Board approval is not necessary for these transformer replacements. In addition, the memorandum requested that CVPS also file supplemental testimony or exhibits which: (1) clarify whether the proposed oil containment would be in accordance with the IEEE Standard 980-1994 "IEEE Guide for Oil Containment and Control of Spills in Substations" and (2) describe in greater detail the proximity of the proposed work to the Class Two wetland area shown adjacent to the project site on exh. TOU-1, and mentioned in exh. TOU-2.

On August 22, 2005, CVPS filed an amended petition requesting a certificate of public good under 30 V.S.A. § 248(j) authorizing: (1) the previous replacement (in the year 2000) of a 3.75 MVA transformer at the Mt. Holly substation in Mt. Holly, Vermont with a 5 MVA transformer from the Bethel substation located in Royalton, Vermont; (2) the previous replacement (in the year 2000) of the 5 MVA transformer in the Bethel substation with a new 10 MVA transformer; and (3) the reconstruction and expansion of the Bethel substation in Royalton, Vermont. CVPS's August 22, 2005, filing also included the supplemental testimony requested by the Board's August 15, 2005, memorandum.

Over the course of its filings from June 29 through August 23, 2005, CVPS submitted prefiled testimony, proposed findings of fact, and a proposed order and CPG pursuant to the requirements of 30 V.S.A. § 248(j).

Notice of this amended petition was issued on September 29, 2005, to all parties specified in 30 V.S.A. § 248(a)(4)(C) and all other interested parties. The notice stated that persons 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 must file their comments with the Board on or before October 31, 2005. A similar notice of the filing was published in the *Rutland Herald* on October 3, 2005, and October 10, 2005.

The only comments received were from the Department. On October 31, 2005, the Department filed a letter stating its belief that CVPS's petition does not raise any significant issues with respect to the substantive criteria of 30 V.S.A. § 248, and, further stating that the Department has no objection to the issuance of a CPG without a hearing.

By letter dated December 15, 2005, the Board issued its determination that the reconstruction and expansion of the Bethel substation should be reviewed pursuant to full requirements of Section 248, requested additional information regarding the Mt. Holly transformer upgrade, and required that CVPS provide copies of its petition to parties listed in 30 V.S.A. §248(a)(4)(C). By letter dated December 21, 2005, CVPS provided names of landowners abutting the Bethel substation and the list of persons provided copies of the petition pursuant to 30 V.S.A. § 248(a)(4)(c). CVPS also elected to have the Mt. Holly transformer upgrade continue to be considered under 30 V.S.A. § 248(j).

The Board appointed me as Hearing Officer for this Docket. I held a prehearing conference on January 17, 2006. Appearances were entered by Kenneth Picton, Esq., for CVPS, and by Geoffrey Commons, Esq., for the Department. CVPS's Amended Petition was bifurcated into Docket 7100 for the Bethel § 248 approval request (the previous replacement of the 5 MVA transformer from the Bethel substation with a 10 MVA transformer, and the reconstruction and expansion of the Bethel substation in Royalton, Vermont) and subdocket 7100-A for the Mt. Holly § 248(j) approval request (the previous replacement of a 2.5 MVA transformer at the Mt. Holly substation in Mt. Holly, Vermont with a 5 MVA transformer from the Bethel substation

located in Royalton, Vermont). At the prehearing conference, a schedule was set for the remainder of this proceeding.³

Notice of a site visit and public hearing, scheduled for February 16, 2006, was published in the *Rutland Herald* on January 27, 2006 and February 3, 2006. The site visit and public hearing were held as scheduled on February 16, 2006. Several members of the public attended the site visit and public hearing, and voiced concerns that vegetative screening, in addition to what is proposed by CVPS, would be desirable. No persons intervened in the docket. A Technical Hearing was held on March 23, 2006, at which the prefiled testimony and exhibits, and all other correspondence in this proceeding, were entered into the evidentiary record by stipulation.

I hereby report the following findings and conclusions to the Board in accordance with 30 V.S.A. § 8. In this proposal for decision, I recommend that the Board approve the proposed project and issue a CPG, with conditions. This Proposal for Decision addresses only the Docket 7100 Bethel § 248 approval request.⁴

II. FINDINGS OF FACT

1. CVPS is a duly organized public service corporation with a principal place of business at 77 Grove Street, Rutland, Vermont, and as such is subject to the Board's jurisdiction pursuant to 30 V.S.A. § 203. Pet. 8/23/05 at 1.

2. The existing Bethel substation was constructed in 1955 as a three-breaker, two-distribution-circuit substation, with 46 kV breakers and a 5 MVA transformer. Three 46 kV transmission circuits (Taftsville-Bethel, Randolph-Bethel, Rochester-Bethel) connect to the substation. In 1968, a SCADA-controlled capacitor bank was added to maintain system voltage during contingencies and winter load. Over the past 50 years, CVPS has replaced line-potential transformers, bus pots, and various relays due to age and other conditions. In addition, in 2000,

3. A Prehearing Conference Memorandum was issued on January 24, 2006, which was further supplemented on January 26, 2006, by an Order Eliminating Compressed Schedule Option, in order to provide sufficient time in the schedule for notice of the technical hearing.

4. The Mt. Holly transformer upgrade will be addressed separately pursuant to 30 V.S.A. § 248(j) in subdocket 7100-A.

the 5 MVA transformer was replaced with a 10 MVA transformer for reliability and available-fault-current reasons. Watts pf. at 1.

Project Description

3. CVPS proposes to expand the Bethel substation fence approximately 56 feet to the south, and to expand the substation fence to the north at an acute angle to the existing fence (an expansion to the north of approximately 14 feet at its greatest extent). The entire perimeter would be replaced with new eight-foot fencing (seven feet of page wire plus one foot of barbed wire). Watts pf. at 1; exh. DGW-6.

4. Within the expanded substation fence, the proposed reconstruction of the Bethel substation includes the following additions and modifications: installation of a new ground grid; replacement of breakers; relocation of the existing capacitor bank; relocation of the substation transformer to a new position with oil containment; the addition of a 46 kV steel bay; and installation of a new building and control equipment. Pet. 8/23/05 at 1; Watts pf. at 1-2; exh. DGW-6.

5. The project will include the installation of a new oil containment system for the substation transformers. The proposed containment system is in accordance with the IEEE 980-1994 standard "IEEE Guide for Oil Containment and Control of Spills in Substations," which is a guideline derived from the existing practices of a number of surveyed utilities across the country, designed to help utilities identify factors to consider when deciding whether the installation of secondary oil containment is appropriate at a site. In accordance with the guideline, CVPS has determined that it is appropriate to install secondary oil containment at the Bethel substation at this time. Upton supp. pf. at 1-2.

6. The new 18-foot by 28-foot control house will contain all the new relay/switchgear along with batteries, chargers, AC/DC panels, SCADA, and other miscellaneous control devices. The existing control house is too small to handle the new requirements, and its location and condition do not lend themselves to expansion. The old building will remain as a tool and material-storage shelter. Watts pf. at 2.

7. The new 46 kV steel bay to locate the capacitor bank will be 30 feet in height to match the height of the existing transmission structures. The two 12.5 kV steel bays will be 25 feet high. Watts pf. at 2; exhs. DGW-5 & 6.

8. CVPS proposes to install a trench-way and conduit system for new AC, DC, and control cables to all the equipment within the yard. Watts pf. at 2; exh. DGW-6.

9. A temporary 46 kV line and breaker will be necessary to connect the Bethel-Randolph and Bethel-Rochester transmission lines during the six-month construction period. In addition, the existing capacitor bank needs to be moved during the construction period and will be temporarily installed at the Stockbridge substation located eight miles west of Bethel. All the support structures for the temporary work will be wood poles and cribbing, which will be removed upon completion of the reconstructed substation. Watts pf. at 3.

10. Construction of the project requires the removal of five mugo pines along the driveway, with two red pines to be removed for the temporary transmission tie around the substation. In addition, the box-elder trees under the transmission lines would be removed due to reliability concerns. Dickinson pf. at 1; exh. DSD-1.

11. CVPS proposes to plant a lilac hedge and one flowering crabapple tree along the front of the property to screen the substation, and to plant a triangle of three white pine trees on the west side of the transmission line to replace the red pines that would be removed. A slightly steeper grade along the east side of the driveway will be maintained to avoid burying the roots of the eastern hemlock trees that are the major screen from the road. Dickinson pf. at 2; exh. DSD-1.

12. The total estimated cost for all substation construction work is estimated at \$864,000. Watts pf. at 2. (Hereinafter, Findings 3 through 12 are collectively referred to as the "Proposed Project.")

13. The Proposed Project is designed to increase worker safety and improve system stability and reliability, and will include substantial environmental and aesthetic mitigation. Watts pf. at 1-3; Stacom pf. at 2-3; Upton pf. at 1-10.

14. CVPS also seeks approval for the year-2000 replacement of the 5/7 MVA transformer at the Bethel substation with a 10/14 MVA transformer (the "Prior Bethel Transformer Upgrade"). This transformer replacement was performed in response to system protection and reliability

concerns at the CVPS Mt. Holly substation in Mt. Holly, Vermont. The 2.5 MVA transformer at the Mt. Holly substation was replaced with the 5 MVA transformer from the Bethel substation. Pet. 8/23/05 at 2; Jones pf. at 2-3; exh. KLJ-1; tr. 3/23/06 at 8 (Jones).

15. The total cost for replacing the Bethel 5 MVA transformer with a new 10 MVA transformer was \$166,713. The total cost for replacing the Mt. Holly 2.5 MVA transformer with the 5 MVA transformer from Bethel was \$3,387. Jones pf. at 4-5.

Discussion

Section 248(a)(2) of Title 30 provides that:

Except for the replacement of existing facilities with equivalent facilities in the usual course of business, . . . no company . . . may begin site preparation for or construction of an electric generation facility or electric transmission facility within the state which is designed for immediate or eventual operation at any voltage

On more than one occasion prior to the year 2000, the Board addressed the issue of what constitutes "replacement of existing facilities in the usual course of business" (which would not require prior Board approval). In Docket No. 5514, the Board reviewed a proposed change to a Green Mountain Power Corporation transmission line and adopted a three-step process:

1. An assessment must be made of whether the changes proposed are within the existing right-of-way. If the facility or change cannot be accommodated within the existing right-of-way, a certificate of public good will most likely be required.
2. The proposed changes to the line should also not significantly alter the capacity of the existing line. Again, if the basic capabilities or capacities of the line change, the presumption that the new or altered line is an equivalent line would be lost and Board approval would be required.
3. Finally, if the above two criteria are satisfied, an assessment should be made as to whether the changes will actually result in the installation of "equivalent" facilities in other respects that are relevant to the criteria set out in 30 V.S.A. § 248. To make this determination, the proposal must be reviewed to determine if there will be any **significant** impacts under any of the criteria of 30 V.S.A. § 248. If such an impact is evident, again the presumption that the line is the replacement of an existing facility with an "equivalent" facility would be lost and a petition for a certificate of public good must be filed.⁵

5. Docket No. 5514, Order of 7/29/91 at 10 (emphasis in original).

In Docket Nos. 5841/5859, the Board reaffirmed this analytical process, stating that there was "no reason to abandon the analysis we have previously applied [in Docket No. 5514] to interpret Section 248(a)."⁶

The Prior Bethel Transformer Upgrade doubled the transformer capacity at the substation, which, under Step 2, above, leads to the conclusion that the transformer upgrade did not constitute "replacement of existing facilities with equivalent facilities." While I commend CVPS for bringing this unauthorized transformer upgrade to our attention in the current proceeding,⁷ I concur with the Department that CVPS should have known in 2000, based upon statutory language and Board precedent, that doubling the transformer capacity required Board approval.⁸

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

16. The Proposed 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 the affected municipality. This finding is supported by Findings 17 through 19, below.

17. The Proposed Project will not materially impact existing or potential land uses in the region. Upton pf. at 1-2.

18. The Proposed Project will not have an unduly adverse impact on land conservation measures included in the Royalton Town Plan ("Plan"). The Plan includes objectives suggesting that infrastructure expansions "discourage strip development and sprawl," and "take place with a minimum impact on the aesthetic quality of the community." The Proposed Project will take place on an existing substation lot, and has been designed to reduce and mitigate any adverse

6. Docket Nos. 5841/5859, Order of 6/16/97 at 138.

7. In its cover letter to its June 29, 2005, filing, CVPS stated in a footnote that "[a]lthough not in a request for approval, this change out was described in the Prefiled Direct Testimony of Keith J. Budro dated November 9, 2000 in Docket 6460." Docket 6460 involved a tariff filing of CVPS requesting a 7.6% rate increase, to take effect December 24, 2000.

8. Whether any sanctions should be imposed on CVPS for its failure to obtain prior Board approval is not an issue before the Board in the current proceeding.

aesthetic impacts through preservation of existing vegetation and installation of new tree screens. Upton pf. at 2.

19. The Royalton Selectboard, the Royalton Planning Commission, and the Two Rivers-Ottauquechee Regional Commission were provided with notice of the project and construction plans. CVPS staff attended a meeting of the Royalton Selectboard to explain the project. None of these entities recommended changes to the proposed design. Upton pf. at 2.

Need for Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

20. The Proposed Project and the Prior Bethel Transformer Upgrade are 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 21 through 25, below.

21. The fence expansion and reconfiguration of equipment are intended to improve working clearances during maintenance activities. Watts pf. at 2.

22. The installation of the new building and control equipment would improve reliability and power quality for existing customers, and would increase worker safety. Stacom pf. at 2-3.

23. The Prior Bethel Transformer Upgrade provided more economical line protection flexibility for the Bethel substation, and improved the ability of Bethel to backup the Sharon distribution circuit (which, with the 5/7 MVA transformer in place, it would not currently be able to do under peak loading conditions). Jones pf. at 3; tr. 3/23/06 at 10-11 (Jones).

24. The peak load for the Bethel transformer was 5,612 kVA in the year 2000, and, by 2004 (the last complete calendar year for which data were available prior to CVPS filing its petition), had increased to 6,443 kVA, which is approaching the 7-MVA forced-air rating of the prior 5 MVA transformer. Jones pf. at 4; exh. KLJ-2; tr. 3/23/06 at 9 (Jones).

25. The Prior Bethel Transformer Upgrade results in lower electrical losses. Based upon 2004 information, the 10 MVA transformer had 181,190 kWh and 37.74 kW fewer losses than the 5 MVA unit would have had. Based upon 1999 information, the 10 MVA transformer would have had 154,023 kWh and 31.478 kW fewer losses than the 5 MVA unit. Jones pf. at 6.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

26. The Proposed Project will not adversely affect system stability and reliability. This finding is supported by Findings 27 through 29, below.

27. The Proposed Project would improve system stability. The new capacitor circuit breaker would include zero-voltage close technology, which would mitigate capacitor closing transients. The high-speed fault protection associated with the Proposed Project would mitigate the duration of voltage sags/swells that customers experience during system faults. Stacom pf. at 3.

28. The Proposed Project would improve system reliability. The new protection systems and associated high-speed fault clearing would minimize fault damage, thereby allowing a faster return to service. The proposed switch arrangement would allow CVPS to maintain service to customers while removing equipment from service. The new protection systems would also include fault recording and locating capability, which would allow faster diagnosis of fault conditions and possible correction of incipient fault conditions before an extended outage could occur. Stacom pf. at 2.

29. The Prior Bethel Transformer Upgrade will not adversely affect system stability and reliability. The 5 MVA Bethel transformer was a limiting factor in the ability to back up the Sharon distribution circuit. The installation of the 10 MVA transformer at Bethel improves reliability by allowing the Bethel substation to back up the Sharon distribution circuit. Jones pf. at 3-4.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

30. The Proposed Project and the Prior Bethel Transformer Upgrade will result in an economic benefit to the state and its residents. This finding is supported by Findings 31 through 35, below.

31. The Proposed Project and the Bethel and Mt. Holly Transformer Upgrades will benefit CVPS' customers by improving system stability and reliability, and reducing the frequency and duration of outages. Stacom pf. at 2-3; Jones pf. at 3-5.

32. The total construction cost for the Proposed Project is estimated at \$864,000 (2005 dollars). Watts pf. at 2.

33. The total cost for the Prior Bethel Transformer Upgrade was \$166,713. Jones pf. at 4.

34. The Prior Bethel Transformer Upgrade results in fewer interruptions, which is a benefit to the State and its residents. Jones pf. at 5.

35. The Prior Bethel Transformer Upgrade results in lower overall loss costs. Jones pf. at 6.

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

[30 V.S.A. § 248(b)(5)]

36. The Proposed Project and the Prior Bethel Transformer Upgrade 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 37 through 59, below, which are the criteria specified in 10 V.S.A. §§ 1424(a)(d) and 6086(a)(1)-(8)(a) and (9)(k).

Public Health and Safety

37. The Proposed Project and the Prior Bethel Transformer Upgrade will not have an undue adverse affect on public health and safety, and will improve safety conditions at the substation. Upton pf. at 2.

38. The control building would improve worker safety by allowing the switching of the 46 kV and 12.47 kV circuit breakers to occur at a remote location. The new distribution protection systems would improve Lineworker safety through a "Hot Line Tag" feature, which would provide high-speed fault protection during hot line work conditions. The new transformer differential protection systems would improve the safety of CVPS and emergency workers by helping to ensure that a transformer fault does not result in tank rupture with an ensuing fire. Stacom pf. at 2.

Air Pollution

[10 V.S.A. § 6086(a)(1)]

39. The Proposed Project and the Prior Bethel Transformer Upgrade will not result in unreasonable air pollution. The project will not generate excessive dust during construction, or odors. Construction will take place only during daylight hours, which will minimize the effects

of noise at neighboring properties. No burning will take place (brush cleared from the site will be chipped on site and hauled away for reuse). Upton pf. at 3.

40. The Proposed Project will include the installation of 46 kV breakers containing sulfur hexafluoride (SF₆), a greenhouse gas, as an insulating medium. Non-SF₆ breakers are not available for voltages above 34 kV. Substation breakers undergo scheduled maintenance requiring removal of SF₆ once every four years. CVPS uses a "gas cart" owned by VELCO to capture and reuse the gas, rather than release it to the environment. CVPS participates in the U.S. Environmental Protection Agency's voluntary "SF₆ Emission Reduction Partnership for Electric Power Systems." Upton pf. at 3.

Headwaters and Water Quality

[10 V.S.A. §§ 1424a(d)(1)&(2) and § 6086(a)(1)(A)]

41. The Proposed Project and the Prior Bethel Transformer Upgrade will not be located in a headwaters area. Upton pf. at 4.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

42. There will be no disposal of any waste material into surface or ground water. Upton pf. at 4.

43. The Proposed Project will involve the excavation of soil and concrete foundations in the existing substation yard. This material will be processed and reused on site in accordance with Vermont Solid Waste Management Rules, or disposed of by a licensed waste hauler, as appropriate. Retired substation materials and hardware will be removed from the site for salvage, or for disposal by a licensed waste hauler. Brush cleared from the site will be chipped on site and hauled away for re-use. Upton pf. at 4.

44. As part of the Proposed Project, the 10 MVA substation transformer will be relocated to a new position with a new oil containment system. The proposed oil containment system will comply with the IEEE Standard 980-1994 "IEEE Guide for Oil Containment and Control of Spills in Substations" and will consist of a containment pit, filled with crushed stone and surrounded by an impervious liner, with an 18-inch-diameter perforated drain pipe running from the foundation pad through the pit and liner. The pipe will allow water to move through the

containment structure continuously, but polymer beads at the bottom of the pipe will solidify upon contact with oil, preventing the further migration of any liquid out of the containment structure. The structure is designed to contain approximately 150% of the volume of the oil in the transformer. Upton pf. at 4; Watts pf. at 2; Upton Supp. pf. at 1-2; exh. DGW-7.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

45. The Proposed Project and the Prior Bethel Transformer Upgrade will not require the use of water. Upton pf. at 4.

Floodways, Streams, and Shorelines

[10 V.S.A. §§ 1424a(d)(3)&(12) and §§ 6086(a)(1)(D)(E) &(F)]

46. The Proposed Project and the Prior Bethel Transformer Upgrade are not located on any floodways, streams, or shorelines. Upton pf. at 4-5.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

47. There are no Class I or Class II wetlands on the site of the Proposed Project and the Prior Bethel Transformer Upgrade. There is a Class II wetland on a neighboring property behind the substation. The wetland is approximately 150-200 feet from the property line, which is located adjacent to the proposed fence at the top of the bank. The District Wetlands ecologist for the Agency of Natural Resources has no wetland concerns with the Proposed Project. Upton pf. at 5; Upton Supp. pf. at 1; exhs. TOU-1 and TOU-2; exh. DGW-6; exh. DSD-1.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §§ 6086(a)(2)&(3)]

48. The Proposed Project and the Prior Bethel Transformer Upgrade will not require the use of water and will not place a burden on any existing water supply. Upton pf. at 5.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

49. The Proposed Project and the Prior Bethel Transformer Upgrade will not result in unreasonable soil erosion or reduce the ability of the land to hold water. Steep slopes adjacent to the yard are fully vegetated, and no clearing will take place beyond the top of the banks. Crushed

stone or concrete will be placed directly adjacent to the side and rear foundation of the existing control building to prevent erosion. The front of the expanded yard will be graded level and dressed with gravel, while maintaining the gradual slope of the driveway and preserving mature softwood trees. There will be no paved surfaces on the site. Upton pf. at 5-6.

Transportation Systems

[10 V.S.A. § 6086(a)(5)]

50. The Proposed Project and the Prior Bethel Transformer Upgrade will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. Upton pf. at 6.

Educational and Municipal Services

[10 V.S.A. §§ 6086(a)(6) & (7)]

51. The Proposed Project and the Prior Bethel Transformer Upgrade will not cause an unreasonable burden on the ability of Royalton to provide education or municipal services. Upton pf. at 6.

**Scenic or Natural Beauty, Aesthetics,
and Rare and Irreplaceable Natural Areas**

[10 V.S.A. §§ 1424a(d)(7) through (9) and § 6086(a)(8)]

52. The Proposed Project and the Prior Bethel Transformer Upgrade will not have an undue adverse effect on the scenic or natural beauty, aesthetics, or rare and irreplaceable natural areas. This finding is supported by Findings 53 through 59, below.

53. The Proposed Project and the Prior Bethel Transformer Upgrade will be constructed on an existing substation lot. The front (south side) of the lot faces Vermont Route 107. To the east and west are strips of mature tree cover which screen the property. The back of the lot overlooks a stream, beyond which is a hill with a small field, private road, and two transmission lines. The front of the substation is well-landscaped with mugo pines, red pines, eastern hemlock, black locust, and box elders that have established themselves over the years. All of the trees and shrubs are mature. A substation has existed on the project site for fifty years. Therefore, the Proposed Project will fit the context of its surroundings. Upton pf. at 7-8; Dickinson pf. at 1; exhs. DGW#1 and DGW#2.

54. The new substation bays will be the same height as, or shorter than, the existing steel structures. Watts pf. at 2.

55. Fence expansion and grading at the front of the yard will require the removal of five mugo pines along the driveway, and a group of box elders under the transmission line will be removed for reliability reasons. Two red pines along the fence will be removed for the temporary transmission tie around the substation; three other large mugo pines in the same location will be preserved. A group of eastern hemlocks provides an effective screen from the road, and grading work will be designed to preserve these trees. Dickinson pf. at 1.

56. In its original and Amended Petitions, CVPS proposed to plant a triangle of three white pine trees on the west side of the transmission line to replace the red pines that need to be removed. In addition, CVPS also proposed to plant a lilac hedge and a flowering crabapple tree along the front of the property to augment existing screening and add color to the site in the spring. Dickinson pf. at 1; exh. DSD-1.

57. As a result of the site visit, where it was observed that other options for landscaping may be beneficial, CVPS proposes that the Board, rather than approving CVPS' initial landscaping proposal, require CVPS to submit a post-construction planting plan for approval by the Board. The plan should be submitted within two months of completion of the proposed project. As part of the landscaping plan and as requested by the Department, CVPS will consider the use of plastic fence inserts. This plan should include all of the landscaping proposals for the entire post-construction project. Letter from Kenneth C. Picton, Esq., dated March 17, 2006, to the Board.

58. Because a substation has existed at the site for decades, its expansion will not be shocking or offensive. Upton pf. at 8.

59. There are no known rare or irreplaceable areas in the area of the Proposed Project. Upton pf. at 9; exh. TOU-1.

Discussion

Based on the above findings, the Proposed Project and the Prior Bethel Transformer Upgrade will not have an undue adverse effect on the aesthetics or scenic and natural beauty of the area. In reaching this conclusion, I have relied on 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.⁹

As required by this decision, it is first appropriate to determine if the impact of a project will be adverse. A project will 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 a project were found to have an adverse impact, it would then be necessary to determine whether such an impact would be "undue." Such a determination would be required if the project violated 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 were not taken to improve the harmony of the project with its surroundings. The Board's assessment of whether a particular project will have an "undue" adverse effect based on these standards should be significantly informed by the overall societal benefits of the project.¹⁰

Given the facts of this case, I find that the Proposed Project and the Prior Bethel Transformer Upgrade will not have an adverse impact on aesthetics. Because a substation has existed at the site for 50 years, the new bays will not be higher than the existing bays, and most of the existing visual screen will remain in place, the project fits the context of its surroundings.

Even if the Proposed Project and the Prior Bethel Transformer Upgrade were determined to have an adverse impact on aesthetics, such impact would not be undue. The Proposed Project and the Prior Bethel Transformer Upgrade do not violate a clear, written community standard, are not shocking or offensive, and CVPS has proposed generally available mitigating steps to improve the harmony of the project with its surroundings. The Royalton Selectboard, the Royalton Planning Commission, and the Two Rivers-Ottawaquechee Regional Commission were notified of the Proposed Project and did not recommend any changes to the proposal. New softwood trees will be planted to replace the few being removed on the west side of the property,

9. Quechee Lakes Corporation, Land Use Permit Application #3W0411-EB "Murphy Farm" and #3W0439-EB "Newton Inn," Findings of Fact, Conclusions of Law and Order, Dockets #254 and #255 (Nov. 4, 1985); and affirmed on reconsideration at Quechee Lakes Corporation, Land Use Permits #3W0411-EB "Murphy Farm" and #3W0439-EB "Newton Inn", Memorandum of Decision, Reconsider Motions, Dockets #254 and #255 (Jan. 13, 1986).

10. Docket 6884, Order of 4/21/04 at 20-21.

and screening on the east side will be improved with the installation of a lilac hedge and crabapple tree near the road. At the site visit and public hearing, members of the public requested vegetative screening in addition to that which CVPS originally proposed. The agreement of CVPS to a condition that requires CVPS to submit, within two months of completion of the proposed project, a post-construction planting plan for approval by the Board, will ensure appropriate mitigation for the substation expansion. As part of the landscaping plan, CVPS will consider the use of plastic fence inserts. This plan should include all of the landscaping proposals for the entire post-construction project.

Archeological and Historic Resources

[10 V.S.A. §§ 1424a(d)(10)&(11) and § 6086(a)(8)]

60. Because the Proposed Project and the Prior Bethel Transformer Upgrade will be built on an existing substation lot away from any rivers or streams, the project is unlikely to have any impact on potential archeological sites. Upton pf. at 9.

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. §§ 1424a(d)(4) through (6) and § 6086(a)(8)(A)]

61. The Proposed Project and the Prior Bethel Transformer Upgrade will not impact any necessary wildlife habitat or affect any known sites containing endangered species. Upton pf. at 9; exh. TOU-1.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

62. The Proposed Project and the Prior Bethel Transformer Upgrade will not unnecessarily or unreasonably endanger the public or quasi-public investments in any governmental public utility facilities, services, or lands, or materially jeopardize or interfere with the function, efficiency, or safety of the public's use or enjoyment of or access to such facilities, services, or lands. Upton pf. at 9.

Least-Cost Integrated Resource Plan

[30 V.S.A. § 248(b)(6)]

63. The Proposed Project and the Prior Bethel Transformer Upgrade are consistent with the principles for resource selection in accordance with CVPS' approved least-cost integrated plan.

These projects will allow for continued safe, efficient, and reliable operation of the existing transmission system. Watts pf. at 2-3; Jones pf. at 5-6.

Compliance with Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

64. The Proposed Project and the Prior Bethel Transformer Upgrade are consistent with the 2005 Vermont Electric Plan because they will increase the reliability of existing substations, providing economical and efficient service to existing CVPS customers. Watts pf. at 3; Jones pf. at 5-6; letter dated November 1, 2005, from Geoffrey Commons, Special Counsel, DPS.

Outstanding Resource Waters

[30 V.S.A. § 248(b)(8)]

65. The Proposed Project and the Prior Bethel Transformer Upgrade are not located on or near any Outstanding Resource Waters. Upton pf. at 10.

Waste to Energy Facilities

[30 V.S.A. § 248(b)(9)]

66. The Proposed Project and the Prior Bethel Transformer Upgrade are not municipal solid-waste-to-energy facilities, and, therefore, this criterion is inapplicable.

Existing or Planned Transmission Facilities

[30 V.S.A. § 248(b)(10)]

67. The Proposed Project and the Prior Bethel Transformer Upgrade can be served economically by existing transmission facilities without undue adverse effect on Vermont utilities or customers. Watts pf. at 3.

III. CONCLUSION

Based upon all the above evidence, and with the conditions I recommend that the Board include as part of the approval of the Proposed Project and Prior Bethel Transformer Upgrade, I conclude that the Proposed Project and Prior Bethel Transformer Upgrade:

- (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 resource 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;
- (i) does not involve a waste-to-energy facility; and
- (j) can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers.

All parties to this proceeding have waived their rights under 3 V.S.A. § 811 to file written comments or present oral argument with respect to this proposal for decision, provided that this proposal for decision is substantially in the form as that agreed to by the Parties. Because this proposal for decision is substantially in the agreed-upon form, it has not been circulated to the parties.

Dated at Montpelier, Vermont, this 5th day of May, 2006.

s/William B. Jordan
William B. Jordan
Hearing Officer

IV. ORDER

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

1. The findings, conclusions, and recommendations of the Hearing Officer are adopted.
2. The proposed reconstruction and expansion of the Bethel substation in Royalton, Vermont, and the year-2000 replacement of the 5 MVA transformer at the Bethel substation with a 10 MVA transformer, 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 to allow such construction.

3. CVPS shall comply with the following conditions set forth in the Certificate of Public Good:

- a. Construction, operation, and maintenance of the project shall be in accordance with the plans and evidence submitted in this proceeding.

- b. Within two months of the completion of construction, CVPS shall file a post-construction landscaping plan for approval by the Board. This plan shall include all of the planting and other landscaping or aesthetic mitigation proposals for the entire post-construction project. In addition to filing this plan with the Board and parties to this Docket, CVPS shall also submit this plan to the adjoining landowners and the Royalton Planning Commission. Any comments on the post-construction landscaping plan shall be due at the Board two weeks after CVPS files the plan. When submitting the plan to the adjoining landowners and the Royalton Planning Commission, CVPS shall inform them of the comment deadline and the address to which to send any comments. Based upon the landscaping plan and any comments received, the Board may schedule a post-construction site visit, and may require additional aesthetic mitigation.

- c. The Certificate of Public Good shall not be transferred without prior approval of the Board.

Dated at Montpelier, Vermont, this 5th day May, 2006.

)	
s/James Volz)	PUBLIC SERVICE
)	
s/David C. Coen)	BOARD
)	
s/John D. Burke)	OF VERMONT

OFFICE OF THE CLERK

FILED: May 5, 2006

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: 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.