

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6852

Petition of Vermont Electric Power Company, Inc.)	
("VELCO") for a Certificate of Public Good authorizing)	Hearing at
VELCO to install a Phase Angle Regulator and)	Montpelier, Vermont
associated equipment at VELCO's Sand Bar Substation)	August 4, 2003
in the Town of Milton, Vermont.)	

Order entered: 9/16/2003

PRESENT: Peter B. Meyer, Hearing Officer

APPEARANCES: William B. Piper, Esq.
Primmer & Piper, PC
for Vermont Electric Power Company, Inc.

Geoffrey Commons, Esq.
for Vermont Department of Public Service

David Englander, Esq.
for Vermont Agency of Natural Resources

I. INTRODUCTION

This case concerns a petition filed by Vermont Electric Power Company, Inc. ("VELCO") on May 23, 2002, requesting a certificate of public good ("CPG") from the Public Service Board ("Board") under 30 V.S.A. § 248 authorizing site preparation for and installation of a Phase Angle Regulator ("PAR") at VELCO's existing Sand Bar substation in Milton, Vermont.

The petitioners have served the petition, prefiled testimony, and exhibits on the entities specified in 30 V.S.A. § 248(a)(4)(C).

A prehearing conference was held on June 9, 2003.

Notice of the Public Hearing was sent to all parties and interested persons on June 17, 2003, and was published in The Burlington Free Press on June 25 and July 2, 2003. The Public

Hearing was held as scheduled on Wednesday, July 16, 2003, at the Milton Municipal Building, Milton, Vermont. Also on July 16, 2003, a site visit was held beginning at 4:00 p.m.

On July 23, 2003, VELCO, the Department of Public Service ("DPS" or "Department") and the Agency of Natural Resources ("ANR") (collectively, the "Parties") filed a Stipulation among the Parties that settled all outstanding issues in this docket, subject to the conditions set forth therein. The Stipulation was introduced at the Technical Hearing as Joint Exhibit 1.

Notice of a Technical Hearing was sent on July 17, 2003, to all entities specified in 30 V.S.A. § 248 and to all other interested persons. A Technical Hearing was held as scheduled on August 4, 2003, at 11:00 a.m. at the Public Service Board Hearing Room, Third Floor, Chittenden Bank Building, 112 State Street, Montpelier, Vermont. No one appeared in opposition and substantial evidence was presented in support of the petition.

The DPS issued a Determination under 30 V.S.A. § 202(f) dated July 25, 2003.

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.

1. VELCO is a "company" as defined by Section 201 of Title 30, Vermont Statutes Annotated, and as such is subject to the Board's jurisdiction pursuant to Section 203 of Title 30. Pet. at 2.
2. VELCO's offices are located at 366 Pinnacle Ridge Road, Rutland, VT 05701. Pet. at 2.
3. VELCO owns and operates Vermont's bulk electric transmission system network (115 kV and above), including the Sand Bar 115 kV substation in Milton, Vermont. Pet. at 2.
4. The Sand Bar substation is a switching station (no local load served). It has three 115 kV breakers with associated disconnect switches, a capacitor bank and an Overload Mitigation Scheme ("OMS") series reactor as well as supporting 115 kV steel lattice bus work. Thomas pf. at 3.
5. Currently, approximately 50% of Vermont's peak load is served via four 115 kV lines that supply the northwestern section of the state: the 115 kV transmission line between Highgate and Essex; the 115 kV line between the Granite and Essex substations; the 115 kV line

between the Essex and Williston substations; and the 115 kV line from the Sand Bar substation to the Essex substation, which is the interconnection to New York via the PV-20 line. Thomas pf. at 3; VELCO Exh. LET-2.

6. The Sand Bar substation connects three 115 kV lines: Sand Bar to Georgia; Sand Bar to Essex and the PV-20 line from Plattsburgh, New York to Sand Bar. Thomas pf. at 3-4.

7. The existing transmission system is not capable of reliably meeting Vermont's existing and future electrical needs. VELCO's transmission system was, for the most part, built in the 1950s and 1960s and the transmission infrastructure is thus aged and at capacity. Thomas pf. at 5.

8. Using the DPS August 5, 2002, statewide load forecast, the Vermont system summer peak is expected to reach 1100 megawatts between 2005 and 2006, and 1200 megawatts by 2011. Thomas pf. at 5; VELCO Exh. LET-3.

9. The VELCO Northwest Vermont Reliability Project ("NRP") Critical Load Study (VELCO Exh. LET-4) reveals that the unavailability of a critical resource in Vermont can cause severe thermal and voltage problems, exposing northwestern Vermont and other areas in and outside of Vermont to potential widespread outages at load levels significantly below current summer peak load level. This reliability concern is exacerbated by the fact that critical system elements, including the two most critical resources, the PV-20 and the Highgate Convertor, are vulnerable to and have experienced extended equipment failures or outages in recent years. Thomas pf. 5-6.

10. A PAR is a transformer that has two windings, one of which is out-of-phase. The length of this out-of-phase winding is changed by moving from tap to tap which changes the angle at the point where the PAR is connected. By changing the angle, the amount of power flowing through the PAR can be changed. Other parameters, such as voltage, can also be changed by a PAR. A PAR is designed to control flows at the locations where they are connected. The PV-20 tie that connects the New York and New England electrical systems is a critical tie needed to insure reliability in Vermont. Thomas pf. at 4-5.

11. In approximately 1970, a PAR was installed on the PV-20 line in Plattsburgh, New York. The primary function of the PAR at Plattsburgh is to control (oppose) flow of power from

New York to New England over the PV-20 line. There is a natural tendency, because of the way the bulk power system is configured, for power to flow from New York into Vermont; the Plattsburgh PAR is a specially built transformer that can modify the phase angle to control the flow between the two areas. If the flows are not controlled, the reliability of the Vermont system is compromised and susceptible to power outages. Thomas pf. at 4-6.

12. A new PAR is required at the Sand Bar substation because of deficiencies in the Plattsburgh PAR, which is functioning at or exceeding its desired operating limit under certain dispatch scenarios. Studies performed by VELCO's system planning engineers revealed that a PAR at Sand Bar is necessary to sustain system reliability. Furthermore, the Plattsburgh PAR, installed over 30 years ago, is aged, and has failed and been repaired three times in the last three years. The most recent failure occurred on April 11, 2003, and the unit is not expected to return to service for up to a year (if at all). When the Plattsburgh PAR is inoperable, the reliability of the Vermont system is compromised and Vermont faces potential increased costs from congestion and losses. Thomas pf. at 4.

13. The Plattsburgh PAR no longer has sufficient angle range or thermal capacity to insure reliable performance of the PV-20 transmission line under New York-New England transfers. Thomas pf. at 6.

14. There is evidence based on actual system operation that the present PAR in Plattsburgh is running out of angle range. Last August the PV-20 flow was 149 megawatts, exceeding the desired operating limit on the PV-20 line of 140 megawatts. At that time, Vermont load was about 1023 megawatts, Highgate was importing 212 megawatts, the McNeil generation station was supplying 50 megawatts, the region's gas turbines were supplying nine megawatts, and the region's hydroelectric units were supplying six megawatts. Additional load growth will continue to reduce the effectiveness of the Plattsburgh PAR. Thomas pf. at 7.

15. The Sand Bar PAR Project ("Project"), as proposed, will include installing a 115 kV 350 MVA phase angle regulator at VELCO's Sand Bar substation, along with associated 115 kV bus work, one new 115kV breaker, and protection and control equipment associated with the additional equipment. The existing substation will need to be enlarged by approximately three-tenths of an acre, all on property VELCO currently owns. Thomas pf. at 8; VELCO Exh. LET-5.

16. According to the Critical Load Study, the proposed Sand Bar PAR is needed at load levels as low as 760 megawatts to adjust the flows on the Plattsburgh to Sand Bar PV-20 tie to prevent overloading and tripping, primarily during high New York to New England regional transfers. Thomas pf. at 8.

17. The proposed Sand Bar PAR is necessary to insure system reliability regardless of whether the Plattsburgh PAR is rebuilt and restored to service. The Plattsburgh PAR has already been operating at its maximum angle and can no longer control flows so that they do not exceed the desired 140 megawatt operating limit of the PV-20 line. Moreover, the reliability of the Vermont system should not be so reliant on a critical device that is aged and has suffered several long-term failures. Thomas pf. at 9.

18. The stipulation of the Parties for the approval of the Project includes the following conditions:

- a. The Project must be constructed as shown on the one-line diagram provided by VELCO in response to a DPS Information Request, and identified as VELCO Exhibit DJB-Supp-4b.
- b. VELCO must take all reasonable steps to mitigate noise problems, if any arise.
- c. Prior to the commencement of construction, VELCO must submit its Erosion Prevention and Sediment Control Plan (EPSCP) to ANR for approval. VELCO must not commence construction of the Proposed Project prior to obtaining such approval from the Water Quality Division of ANR's Department of Environmental Conservation.
- d. Prior to the commencement of construction, VELCO must apply for and obtain a water supply/wastewater disposal permit from ANR's Department of Environmental Conservation for the Sand Bar substation.
- e. Prior to the commencement of construction, VELCO must apply for and obtain an Endangered and Threatened Species Permit from Vermont Department of Fish and Wildlife for the Sand Bar substation.

f. Prior to the commencement of construction, VELCO must submit to the Board, for its review and approval, detailed construction plans showing all facilities to be constructed.

g. Within 60 days of the completion of construction, VELCO must submit to the Board, for its approval, proposed plans showing proposed vegetative screening. Within 30 days of such submission, VELCO must review the Proposed Project with the Board's staff, ANR, and the Department to determine the plantings and landscaping necessary to minimize the visual impacts of the Project. All plantings and landscaping must be completed within one (1) year of Board approval.

Joint Exh. 1 at Paragraph 2 a-g.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

19. 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 20 through 27, below.

20. The Project involves the addition of new electrical equipment at an existing substation site, requiring relatively limited expansion of the substation fenced area. The Sand Bar substation is situated on a 173-acre parcel of land owned by VELCO located off Bear Trap Road in Milton, Chittenden County, Vermont. Rowe pf. at 2.

21. On January 25, 1974, VELCO received a Certificate of Public Good in Docket No. 3712 authorizing construction of the Sand Bar 115 kV substation. Rowe pf. at 2; VELCO Exh. DJB-2.

22. The Project involves the addition of a PAR device, together with bus work, breakers and related equipment. The existing substation yard is approximately 1.98 acres. The modifications proposed will require expanding the enclosure by 129 feet to the north, requiring 0.30 acres of improved grading. Rowe pf. at 2; VELCO Exhs. DJB-3 and DJB-4.

23. The Town of Milton Comprehensive Plan does not provide specific guidance regarding the siting of transmission facilities, or note the existing transmission facilities located in the town. Rowe pf. at 2; VELCO Exh. AR-2.

24. VELCO has reviewed the Chittenden County Regional Planning Commission ("CCRPC") 2001 regional plan. The Project is consistent with the goals and policies of the CCRPC's regional plan recommendations, as the proposed improvements will occur at an existing utility facility. Rowe pf. at 3-4; VELCO Exh. AR-3.

25. VELCO notified the Town of Milton and the Chittenden County Regional Planning Commission about the proposed Project on March 14, 2003. Rowe pf. at 4; VELCO Exhs. AR-4 and AR-5.

26. On April 21, 2003, VELCO made a presentation about the Project to the Selectboard of the Town of Milton. VELCO followed up by sending a copy of the proposed substation site plan, which includes additional screening recommended by VELCO's aesthetic consultant. Rowe pf. at 4.

27. To date, VELCO has not received any formal comments from the Chittenden County Regional Planning Commission in response to the Project introduction letter. Rowe pf. at 5.

Need for Present and Future Demand for Services

[30 V.S.A. § 248(b)(2)]

28. The proposed project is required to meet the present and future demand for services 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 7 through 17 above, and 29 through 32, below.

29. The proposed addition of the PAR at Sand Bar is required because, with the outage of the Plattsburgh PAR, Vermont faces increased risks of outage and voltage problems and the risk that additional generation may be required to run in New England to hold back the flow on the PV-20 line if an excess flow situation occurs. Under the wholesale electricity market design rules, the out-of-merit generation costs could be charged specifically to Vermont rather than being socialized over the whole of New England. Parker pf. at 2.

30. VELCO considered the Plattsburg PAR failure to be an emergency and, following the failure, immediately began the bid procurement process for the Sand Bar PAR. VELCO would prefer to install the Sand Bar PAR prior to June 2004 (i.e., before 2004 summer peak loads), but according to all information VELCO received from manufacturers, a PAR could not be in service until approximately one year from the date of order. Parker pf. at 3.

31. VELCO retained LaCapra Associates to conduct an extensive assessment of resource alternatives to some of VELCO's proposed Projects, including the Sand Bar PAR upgrade. The LaCapra analysis concludes that the Sand Bar PAR is needed to control voltage, insure system stability, or direct flows to prevent thermal overloads post-contingency, irrespective of future load levels. Further, the study concluded that this need cannot be displaced by either adding generation or through demand-side programs. Thomas pf. at 10.

32. The Critical Load Study results reveal that the Sand Bar PAR is needed at load levels as low as 760 megawatts; VELCO has not experienced such a low system peak since the 1980's. Thomas pf. at 11.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

33. The Project will not adversely affect system stability and reliability; in fact, the proposed project will enhance system stability and reliability. This finding is supported by findings 7-17, above, and 34-39, below.

34. The PV-20 tie that interconnects New York and New England electrical systems is a critical tie needed to insure reliability in Vermont. The Plattsburgh PAR was installed on the PV-20 tie in approximately 1970 for the purpose for controlling the flows over this tie. If the flows are not controlled, the reliability of the Vermont system is compromised and susceptible to power outages. Thomas pf. at 6.

35. The Plattsburgh PAR no longer has sufficient angle range or thermal capacity to ensure reliable performance under the New York-New England transfers. Thomas pf. at 6.

36. The addition of the Sand Bar PAR that VELCO is proposing does not increase capacity from or to New York. It simply allows the tie to be kept in service at its present

capacity under regional stresses without raising concerns about pre or post-contingency tripping due to overload. Thomas pf. at 8.

37. When the Vermont Yankee to Coolidge 345 kV line is out of service, some of the line flow is redistributed to the Sand Bar tie, which overloads as a result. Other contingencies within Vermont, such as a loss of the Middlebury to West Rutland line, and outside of Vermont, such as the loss of the Sandy Pond HVDC tie, have the potential to cause the same problem. Thomas pf. at 8.

38. When the PV-20 tie is overloaded, the series reactor at the Sand Bar substation will then insert into the tie to reduce the flow. However, the insertion of the series reactor may cause voltage problems, such as voltage instability, low voltage, and /or voltage collapse. The Sand Bar PAR would prevent any of these overloads. Thomas pf. at 8-9.

39. The Sand Bar PAR is necessary to insure system reliability regardless of whether the Plattsburgh PAR is rebuilt or restored to service. Thomas pf. at 9.

Economic Benefit to the State

[30 V.S.A. §248(b)(4)]

40. The proposed project will result in an economic benefit to the state. This finding is supported by findings 41-47, below.

41. The estimated total cost of the Project is estimated to be \$8.2 million. VELCO expects that this project will be classified as a Pool Transmission Facility ("PTF") under the New England Power Pool tariff. This means that all of the costs would be paid on a pro-rata basis by all of the load in New England. Vermont's share of the New England load for the calendar year 2002 was about 4.09%. Vermont customers would pay approximately \$341,000 of the Project costs. This translates into an increase of approximately .01 cents on each dollar of the average customer's electric bill. If none of the Project's costs are PTF, then the Project will increase the average customer's electric bill by .21 cents. Thomas pf. at 13.

42. When the Plattsburgh PAR is out of service and there is potential for heavy flows on the PV-20 line, Vermont has to "must run" generation out-of-merit in order to control those flows. Thomas pf. at 11.

43. Prior to March 2003, Vermont's portion of the cost of running out-of-merit generation was a load ratio share (approximately 4%) of New England's total congestion bill. That bill was for the fuel costs associated with the out-of-merit generation for congestion relief and local area reliability. Thomas pf. at 11.

44. Under that cost allocation regime, during the previous Plattsburgh PAR failure (in 2000-2001), Vermont was responsible for paying only its load share portion of the total New England congestion. Local generation was run for reliability about 400 hours during the outage and had a cost associated with those hours of \$6.3 million. There were also \$4.5 million of costs associated with running an emergency synchronous condenser/generator at the Sand Bar substation. Thomas pf. at 11.

45. Beginning March of 2003, the "Standard Market Design" has come into effect. As a result, congestion costs are based on Location Marginal Prices ("LMP") which are charged directly to the congested area, which in this case would be Vermont. However, it is unclear at this time if the Plattsburgh PAR failure situation is clearly addressed by the market rules, and there is a possibility that some or all congestion costs associated with the Plattsburg PAR failure could be socialized throughout New England. Thomas pf. at 11.

46. Studies performed for VELCO by LaCapra Associates indicate that the incremental congestion cost exposure for the one-year Plattsburg PAR outage in the best case scenario would be zero and in the worst case scenario could be as much as \$44 million. Thomas pf. at 11.

47. Considering the large amount of new natural gas-fired generation that has come on line in New England, it is expected that the typical dispatch will be from New England to New York in the upcoming year. In this scenario, it is likely that a minimal amount of out-of-merit generation will be required to regulate the PV-20 flow with the Plattsburg PAR out of service. However, an increase in natural gas prices, unexpected unit outages that influence New York to New England power flows, or additional equipment failure in the VELCO system, could result in the higher congestion cost scenario. Thomas pf. at 12.

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

[30 V.S.A. § 248(b)(5)]

48. The Project will not have an undue adverse affect on aesthetics, historic sites, and water purity, the natural environment and the public health and safety. This finding is supported by Findings 49 through 84, below, which address the issues under § 248(b)(5) including the criteria incorporated from 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8) and (9)(K).

49. The proposed project will have no adverse impact on health, safety or welfare of the public, as all facilities are designed and constructed in accordance with the most current version of the National Electrical Safety Code (NESC C2-2002). Boers pf. at 4.

Outstanding Resource Waters

[10 V.S.A. § 1424a(d)]

50. The Project does not involve a facility affecting or located on any segment of water designated as an outstanding resource water. Rowe pf. at 6.

Water and Air Pollution

[10 V.S.A. §6086(a)(1)]

51. The Project will not result in undue water or air pollution. This finding is supported by findings 52 through 54, below.

52. VELCO retained an environmental consultant to examine the potential impacts of the Project. The consultant's report concluded that there will be no adverse impact from the Project. Rowe pf. at 6; VELCO Exh. AR-11.

53. There will be no air emissions from the Project. During the construction phase, no brush will be burned. Dust will be controlled during construction, as necessary by the application of water. Rowe pf. at 6.

54. The Project will not result in undue adverse noise pollution because, while the PAR device may increase noise levels at the site, the noise levels will not exceed applicable noise

standards. VELCO requires, in its equipment procurement specifications, that the manufacturers of the equipment meet required noise standards (NEMA Standard TR-1 and the most recent version of the ANSI C57.12.90) and EPA recommended guidelines for noise. VELCO has agreed to take all reasonable steps to mitigate noise problems, if any arise. Parker pf. at 3-4; Stip at 2(b).

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

55. The proposed project is not located in a headwaters area because the site is not in a drainage area of 20 square miles or less, it is not above 1500 feet in elevation, it is not in an area characterized by steep slopes and shallow soils, and is not located within an aquifer recharge area. Rowe pf. at 7; VELCO Exh. AR-11.

Waste Disposal

[10 V.S.A. §6086(a)(1)(B)]

56. The proposed project will meet all applicable health and Department of Environmental Conservation regulations for waste disposal and will not involve the injection of waste materials or any harmful toxic substance into ground water or wells. This finding is supported by findings 56-59, below.

57. Solid wastes will be disposed of at appropriate landfills. Rowe pf. at 7.

58. VELCO proposes to construct a wastewater disposal system at the Sand Bar substation. The Company has submitted an application to the Vermont Department of Environmental Conservation ("DEC") for Water Supply and Wastewater Disposal permit for an on-site well and septic system and will not construct such a system until it has received the appropriate permit. Rowe pf. at 7; Transcript, 8/4/03 at pages 21-22.

59. There will be no paved surfaces at the substation in connection with the Project. The finished grade will be loose crushed stone. After a storm, the surface will drain quickly, creating no standing water or channel flow. New concrete foundations will be minimal and the increase in impervious area will therefore not be significant. Rowe pf. at 8.

60. The PAR will be mounted on a concrete foundation with an integral oil retention design. The containment system will have the capacity to hold two times the volume of the oil in

the PAR. The volume of the containment system is over-designed to account for water that will accumulate in the containment area between removal intervals. Boers pf. at 3; VELCO Exh. DJB-5.

Discussion

VELCO has provided no plans for the wastewater disposal system that it plans to construct at the substation, nor has it provided a permit for that system from the DEC. Consequently, there is no evidence on which to find that the wastewater disposal facility will meet DEC regulations and that it will not result in undue water pollution. Therefore, I recommend that the CPG should not include approval of the wastewater disposal facility at this time. I further recommend that this docket remain open, and that the Board include a condition in the CPG that requires VELCO to file a request to modify the CPG, to approve the wastewater disposal facility, with supporting evidence when VELCO receives a DEC permit for this facility.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

61. Plumbing fixtures in the substation control building will use low-flow water conserving devices. The substation is not manned, and thus water usage will be minimal. Rowe pf. at 8.

Floodways

[10 V.S.A. § 6086(a)(1)(D)]

62. No portion of the Project is located within a floodway. Rowe pf at 8.

Streams

[10 V.S.A. § 6086(a)(1)(E)]

63. No identifiable streams are located within the vicinity of the Project. Rowe pf. at 8; VELCO Exhibit AR-11.

Shorelines

[10 V.S.A. §6086(a)(1)(F)]

64. There are no shorelines in the vicinity of the Project. Rowe pf. at 9; VELCO Exh. AR-11.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

65. There are no wetlands in the vicinity of the Project, and none would be expected to develop on the site's deep, sandy soils. Rowe pf. at 9; VELCO Exh. AR-11.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §6086(a)(2) and (3)]

66. The Project will not burden existing water supplies due to the infrequent use of the sanitary facilities at the substation. Rowe pf. at 9.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

67. The Project as designed will not result in unreasonable soil erosion or reduce the capacity of the land to hold water. This finding is supported by findings 68 to 70, below.

68. Construction of the Project will require expanding the enclosure fence by 129 feet to the north, requiring approximately three-tenths of an acre of improved grading. Rowe pf. at 9; VELCO Exh. DJB-4.

69. VELCO will require the contractor to employ appropriate soil erosion control and construction techniques, including those contained in VELCO's Sedimentation and Erosion Control Plan. Rowe pf. at 9-10; VELCO Exh. AR-12.

70. VELCO will, prior to commencement of construction, submit its Erosion Prevention and Sediment Control Plan to ANR for approval. Joint Exh. 1, Paragraph 2.

Traffic

[10 V.S.A. § 6086(a)(5)]

71. The Project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. Traffic congestion, if any, will be kept to a minimum since the construction will take place at the existing substation site, located on a VELCO access road. Construction vehicles should be able to park at the existing parking area adjacent to the substation site. Once the project is completed, there will be only minimal traffic to the substation for maintenance. Rowe pf. at 10.

Educational and Municipal Services

[10 V.S.A. § 6086(a)(6) and (7)]

72. There will be no impact on educational services, as the Project will not bring additional students into the area or otherwise impair the ability of the municipality involved to provide educational services. Rowe pf. at 10.

73. The proposed Project will not place an unreasonable burden on the Town of Milton to provide municipal services. The Project will not create any additional burden on local fire departments or local law enforcement officers. The Project will not generate solid waste. The Project will result in increased taxable property and tax revenue to the Town of Milton, which would result in a benefit to the municipal budget. Rowe pf. at 10.

**Scenic or Natural Beauty of the Area, Aesthetics;
Rare and Irreplaceable Natural Areas; Necessary Wildlife Habitat,
Endangered Species, and Primary Agricultural Soils**

[10 V.S.A. § 6086(a)(8)]

74. The proposed 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 75 through 83, below.

75. The western side of the substation site is visible from some segments of U.S. Route 2, although the site is partially screened from the road. The proposed upgrades include the addition of a PAR device and associated equipment at the northern end of the site which is well screened. The location is advantageous because it does not locate any additional equipment closer to the Route 2 viewshed. Boyle pf. at 2.

76. VELCO will plant additional evergreen plantings along both sides of the access roadway where the existing substation yard is visible from Route 2. These plantings, as indicated on VELCO Exh. TJB-2, will include 20 white pines at 5 to 6 feet in height planted 10 feet on center. Boyle pf. at 2; VELCO Exh. TJB-2.

77. The proposed lighting to be installed is shown on VELCO Exhibit DJB-4 and will consist of 70-watt high pressure sodium floodlights. The fence-mounted lights will be installed

9 feet high, and the fixtures will be as indicated in VELCO Exhibit DJB-6. All new lighting will be angled downward to reduce glare. Boers pf. at 3.

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, I have relied on the Environmental Board's methodology for determination of "undue" adverse effects on the aesthetics and scenic and natural beauty as outlined in the so-called Quechee Lakes decision. Quechee Lakes Corporation, #3WO411-EB and 3WO439-EB, dated January 13, 1986.

As required by this decision, it is first appropriate to determine if the impact of the 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 project with its surroundings. The Board's assessment of whether a particular project will have an "undue" adverse effect based on these three standards is significantly informed by overall societal benefits of the project.¹

Given the facts of this case, it would be difficult to find that the project will have an adverse effect on the aesthetics of the area. I reach this conclusion because the location of the substation expansion to the north to accommodate the PAR facility is reasonably well screened at present, it will continue to be screened after necessary clearing, and VELCO will add plantings along the substation access road.

Even if the aesthetic impact of the project were deemed to be adverse, it would not be undue because it does not violate a clear written community standard as shown in findings 19-27,

1. Consider, for example, reduction in need for power plant or transmission investments, or other societal costs.

above; it will not be shocking or offensive to the average person; and VELCO has taken reasonable mitigating steps to minimize the project's impacts.

Rare and Irreplaceable Natural Areas;
Necessary Wildlife Habitat,
Endangered Species

78. An environmental consultant hired by VELCO investigated the presence of rare and irreplaceable natural areas and rare, threatened or endangered plant and animal species in the various project areas. The consultant's findings are detailed in VELCO Exhibit AR-11. Rowe pf. at 11.

79. VELCO identified a population of Houghton's umbrella sedge listed as "threatened" in Vermont, primarily outside the area of proposed expansion. Some of these plants, however, are located in the southeast corner of the expansion area and will require an Endangered Species Permit from the Agency of Natural Resources. Rowe pf. at 11.

80. VELCO has applied for an Endangered Species Permit, with the hearing on that permit scheduled for the third week of August, 2003. Tr. 8/4/03 at 18 (Rowe).

81. VELCO is able to do the clearing and concrete site work that needs to be done this fall without disturbing the threatened Houghton's umbrella sedge.²

82. No necessary wildlife habitat has been identified at the Sand Bar site. Rowe pf. at 11.

Primary Agricultural Soils

83. There is no agricultural land associated with the Project. Rowe pf. at 11; VELCO Exhibit AR-13 (Vermont Department of Agriculture concurrence).

2. The parties agreed that the provision of the Stipulation (Joint Exhibit 1) at Paragraph 2e should be read to prohibit construction that would threaten the Houghton's umbrella sedge prior to obtaining an Endangered and Threatened Species Permit from the Vermont Department of Fish and Wildlife, and that such prohibition does not apply to site work planned by VELCO for this fall which will not have an impact on the threatened plant. Tr. 8/4/03 at 19-20, 23-24.

Development Affecting Public Investments

[10 V.S.A. §6086(a)(9)(K)]

84. The project is not located near any public or quasi-public investments or any governmental public utility facilities, services or lands. Consequently, the project will not materially jeopardize or interfere with function, efficiency, safety, the public's use or access to or enjoyment of such facilities, service or lands. Rowe pf. at 12.

**Consistency with Resource Selection/
Integrated Resource Plan**

[30 V.S.A. § 248(b)(6)]

85. As a non-retail electric company, VELCO is not required to have an integrated resource plan.

Compliance With Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

86. The DPS has determined that the Project is consistent with the Vermont 20-Year electric plan, in accordance with 30 V.S.A. § 202(f), provided the project is constructed as described. Joint Exh. 3 (Revised by letter issued May 16, 2003, sent to Board on May 21, 2003.)

Outstanding Water Resources

[30 V.S.A. § 248(b)(8)]

87. The Project 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. Rowe pf. at 6.

Waste to Energy

[30 V.S.A. § 248(b)(9)]

88. This criterion is not applicable

Existing Transmission Facilities

[30 V.S.A. §248(b)(10)]

89. The Project will have no adverse effect on Vermont's customers or utilities and is in fact necessary to improve reliability of the existing transmission system. See findings 9-18, above.

III. Conclusion

Based upon all the above evidence, the site preparation for and installation of a Phase Angle Regulator ("PAR") at VELCO's existing Sand Bar substation in Milton, Vermont:

- (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.

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

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

Dated at Montpelier, Vermont, this 16th day of September, 2003.

s/Peter B. Meyer

Peter B. Meyer
Hearing Officer

V. ORDER

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

1. The findings, conclusion and recommendations of the Hearing Officer are adopted.
2. The proposed project, 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.
3. The Stipulation filed by the parties on July 23, 2003 (Joint Exhibit 1) is accepted and approved. Compliance with all terms of the Stipulation, except as modified herein, is required.
4. The wastewater disposal facilities are specifically not approved by this Order. Prior to construction of said facilities, VELCO shall file a request with the Board to modify the certificate of public good to authorize such construction; VELCO's request shall include specific evidence that the facility will meet all applicable DEC regulations. This Docket shall remain open in order to review this request.
5. The Board has continuing jurisdiction to resolve any disputes arising under the above-mentioned Stipulation.

Dated at Montpelier, Vermont, this 16th day of September, 2003.

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

OFFICE OF THE CLERK

Filed: September 16, 2003

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.