

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7015

Petition of Entergy Nuclear Vermont Yankee,)
LLC, pursuant to 30 V.S.A. § 248(j), for a)
Certificate of Public Good to Install Capacitor)
Banks)

Order entered: 12/29/2004

I. INTRODUCTION

On October 11, 2004, Entergy Nuclear Vermont Yankee, LLC ("Entergy VY") filed a petition ("Petition") with the Vermont Public Service Board ("Board") for a certificate of public good ("CPG") pursuant to 30 V.S.A. § 248(j) to install three banks of capacitors and associated breakers (the "Project"), on the site of its electric-generation station, the Vermont Yankee Nuclear Power Plant (the "Station" or "Vermont Yankee"), in Vernon, Vermont.

Pursuant to 30 V.S.A. § 248(j), the Board determined that the proposed facilities are of limited size and scope, the petition does not raise a significant issue with respect to the substantive criteria established by 30 V.S.A. § 248, and that the public interest is satisfied by the procedures authorized by subsection 248(j). Notice of the filing in this docket was sent on October 20, 2004, to all parties specified in 30 V.S.A. § 248(a)(4)(C) and all other interested parties. The notice stated any party wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 needed to file comments with the Board on or before November 19, 2004. Because publication of the notice in the *Brattleboro Reformer* did not take place, the Board issued a second notice on November 5, 2004. The second notice was published in the *Brattleboro Reformer* on November 8 and November 15, 2004, stating that any party wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 needed to file comments with the Board on or before December 6, 2004.

On November 30, 2004, comments were received from the Vermont Department of

Public Service ("DPS" or "Department"), which stated that the Department does not believe the Project raises any significant issues with respect to the substantive criteria of 30 V.S.A. § 248.

No other comments were received.

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

II. FINDINGS OF FACT

Based upon the petition and accompanying documents, the Board hereby makes the following findings in this matter.

Project Description

1. Entergy VY owns and operates Vermont Yankee, which is an electric-generation facility in Vernon, Vermont. Thomas pf. at 1.
2. In conjunction with Entergy VY's Extended Power Uprate Project (the "Uprate Project"), conditionally approved by the Board in Docket No. 6812, by Order entered March 15, 2004 (the "Uprate Order"), GE Power Systems Energy Consulting ("GE"), under contract with Independent System Operator ("ISO New England"), prepared an assessment of the impact of the Uprate Project on the transmission system that carries the electricity produced at the Station. *Id.* at 2.
3. GE provided its initial assessment on October 7, 2003, in the "Vermont Yankee Uprate System Impact Study" or "10/7/03 SIS." *Id.*; exh. GST-2.
4. ISO New England accepted the 10/7/03 SIS assessment by letter dated October 8, 2003 ("10/8/03 SIS Acceptance Letter"). Thomas pf. at 2-3; exh. GST-3.
5. The 10/7/03 SIS listed certain modifications that must be done in order for the transmission system to accommodate the Uprate Project. Thomas pf. at 3; *see* exh. GST-2.
6. These modifications were listed as conditions in the 10/8/03 SIS Acceptance Letter: Condition 1 defined the operational conditions including the plant gross and net output rating following the Uprate Project and gross reactive capability; Conditions 2 through 8 specified certain modifications that are necessary for the transmission system to support the plant rating described in Condition 1. Thomas pf. at 3; *see* exh. GST-3.

7. Entergy VY's petition relates to Condition 4 of the 10/8/03 SIS Acceptance Letter, which provided that:

4. [Entergy VY] [a]dding one bank of 30 MVAR switched capacitors and two banks of 15 MVAR switched capacitors at the Vermont Yankee 115 kV switchyard. The 30 MVAR bank should be connected such that it trips with the autotransformer. The 15 MVAR banks should be connected to the 115 kV bus such that they are available with the autotransformer out of service.

Thomas pf. at 3; exh. GST-3 at 1.

8. Conditions 2, 5, 6, 7 and 8 in the 10/8/03 SIS Acceptance Letter were reviewed and approved by the Board in Docket No. 6923 by Order of March 19, 2004. Thomas pf. at 3; exh. GST-3.

9. On November 11, 2003, GE revised the 10/7/03 SIS to evaluate phase one of the Uprate Project or operation of Vermont Yankee at up to 630 MW gross output without the recommended addition of the capacitor banks that are the subject of this petition ("11/11/03 SIS"). Thomas pf. at 4; exh. GST-4.

10. ISO New England accepted the 11/11/03 SIS by acceptance letter dated December 11, 2003 ("12/11/03 SIS Acceptance Letter"). Thomas pf. at 4; exh. GST-5.

11. The 12/11/03 SIS Acceptance Letter corrected a typographical error in Condition 2 and outlined the revised conditions to increase Station output during phase one of the Uprate Project to a maximum gross plant rating of 630 MW without the requirement to install capacitor banks, provided that the gross lagging reactive capacity was increased. All other conditions in the 10/8/03 SIS Acceptance Letter remained the same.¹ Thomas pf. at 4; exh. GST-5.

12. The 60 MVAR of shunt capacitors must be installed and operating prior to the Station exceeding 630 MW gross electrical output. Thomas pf. at 4.

13. Entergy VY provided simplified one-line diagrams of the existing and proposed Vermont Yankee plant and switchyards (with and without the proposed capacitors). *Id.* at 4-5; exh. GST-7.

1. A summary of the revisions from the 10/7/03 SIS to the 11/11/03 SIS is provided as Exhibit GST-6.

14. As described in Condition 4 of the 10/8/03 SIS Acceptance Letter, Entergy VY proposes to install the Project – one bank of 30 MVAR and two banks of 15 MVAR capacitors – within the Station's 115 kV switchyard or "115 kV Switchyard." Thomas pf. at 4-5; *see* exh. Entergy-2.

15. Each capacitor bank will have its own switching breaker that will tie the bank directly into Entergy VY's 115 kV bus. Thomas pf. at 5.

16. The 30 MVAR bank will be connected so that its switching breaker trips along with the loss of the Entergy VY 345/115 kV Autotransformer. *Id.*

17. The capacitors will be remotely controlled by the Vermont Electric Power Company, Inc. ("VELCO") system operator, by closing and opening the switching breakers either manually or automatically, as required to maintain voltage at the Vermont Yankee 345 kV switchyard within the NEPOOL-approved System Voltage Schedule. *Id.*

18. Entergy VY plans to commence installation of the Project in April 2005, which will enable it to tie into the 115 kV bus during the next refueling outage planned for the Fall of 2005. *Id.*

19. VELCO will review the final design prior to installation. *Id.*

20. As part of the Project, Entergy VY plans to expand the 115 kV Switchyard by approximately 20 feet to the south to accommodate related equipment and a 16 foot by 36 foot "Control Building," located on a concrete foundation, to house the control, protection and test equipment required for the capacitors and their switching breakers. *Id.*; Boemig pf. at 11; exhs. Entergy-1, Entergy-2.

21. The capacitor banks and related structures, breakers and light poles will also be located on concrete foundations. Thomas pf. at 6.

22. The existing 345 kV and 115 kV switchyards and approximately five feet surrounding the switchyards are currently covered with crushed stone for personnel safety. *Id.* at 6, 13; Boemig pf. at 11.

23. The proposed expansion of the 115 kV Switchyard will also be covered with crushed stone. Thomas pf. at 6, 13; Boemig pf. at 11.

24. Expansion of the 115 kV Switchyard requires relocation of the existing, grass-lined drainage swale along the south side of the yard to the new edge of the expanded yard. Thomas pf. at 6; Boemig pf. at 11; exh. Entergy-1 (Sheets 1 & 2).

25. Entergy VY plans to relocate four existing lights and add four new lights within the 115 kV Switchyard to provide better overall coverage of the area as follows: two existing, 1,000-watt, mercury-vapor, downcast lights on 12-foot poles adjacent to the south-side fence will be moved out to the expanded south fence line; two existing 1,000-watt, mercury-vapor, downcast lights on 12-foot poles located on the east side of the 115 kV Switchyard will be moved out to the east fence line; two new, 1,000-watt, mercury-vapor, downcast lights on 12-foot poles will be added along the north fence line of the 115 kV Switchyard; and two new, 150-watt, high-pressure sodium, downcast lights will be added – one above each of the two Control Building doors – to provide visibility and security for the Control Building. Thomas pf. at 6; Boemig pf. at 11-12; exh. Entergy-1 (Sheet 2 of 3).

26. The proposed lighting will be angled downward to minimize the effect, if any, to surrounding neighbors. Thomas pf. at 6.

27. The closest neighbor's house to the new lighting (at its closest point) will be approximately 1200 feet away. *Id.* at 6-7.

28. The proposed lighting will not substantially increase the amount or impact of lighting already visible from nearby residences and roadways. *Id.* at 7; Boemig pf. at 12.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

29. 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 44, below.

30. By letter dated August 5, 2004, Entergy VY provided the Town of Vernon Planning Commission with plans for the construction of the Project as required by subsection 248(f) and

reviewed the Project with the Vernon Planning Commission that evening. Thomas pf. at 7; *see* 30 V.S.A. § 248(f).

31. By letter dated August 5, 2004, the Vernon Planning Commission stated that it had agreed to waive the 45-day notice pursuant to § 248(f) and had determined that the Project will not unduly interfere with the orderly development of the region or overburden municipal and governmental services in the Town of Vernon. Thomas pf. at 7; exh. GST-9.

32. At its meeting held on August 30, 2004, the Vernon Selectboard reviewed the Project and found that it will not unduly interfere with the orderly development of the region and will not overburden municipal and governmental services in the Town of Vernon. Thomas pf. at 8; Boemig pf. at 10; exh. GST-8.

33. The Vernon Town Plan, which was adopted on November 3, 2003, was intended to be a policy document that provides guidelines to ensure that decisions made at the local, regional and state levels are in concert with the values and goals expressed in the plan. Thomas pf. at 8; exh. GST-10 at 2.

34. The plan specifically cites the Station, its contribution to the community's tax base and its provision of varied employment opportunities as being largely responsible for Vernon's rural independence and self-sufficiency. Thomas pf. at 8; exh. GST-10 at 17.

35. The Vernon Town Plan states the town's policy to encourage land uses that help to protect river corridors, scenic highways and roads, scenic views and other scenic resources. Thomas pf. at 9; exh. GST-10 at 33.

36. The Project will not adversely affect river corridors, scenic highways and roads, scenic views or other scenic resources; the Project will be sited near Entergy VY's electric-generation facility, which is industrial in character, consists of concrete and metal-sided buildings and includes transmission lines, towers, transformers and the existing 345 kV and 115 kV switchyards; the Project will consist of a nominal addition of 20 feet to the existing 115 kV Switchyard, which will increase its dimensions from 216 feet by 132 feet to 216 feet by 152 feet; this Project will not affect the mature tree buffer on lands now or formerly owned by USGen New England, Inc. between the 115 kV Switchyard and the Connecticut River, or the existing trees providing screening between the existing switchyards and Governor Hunt Road; the Project

will not adversely affect the view of the Connecticut River corridor; and the Project is not located on a scenic highway or road. Thomas pf. at 9.

37. On August 4, 2004, Entergy VY provided the Windham Regional Commission ("WRC") with plans for the Project as required by Section 248(f). *Id.*; see 30 V.S.A. § 248(f).

38. By letter dated August 10, 2004, Mr. James P. Matteau, Executive Director of the WRC, responded that the Project will not have significant environmental impacts, will not have an adverse aesthetic effect, and will not unduly interfere with the orderly development of the region; the WRC further waived the 45-day, pre-application review allowed under subsection 248(f). Thomas pf. at 9-10; exh. GST-11.

39. The Windham Regional Plan, which was adopted in December 2001, is intended to provide continuing guidance for change in the Windham region. Thomas pf. at 10; exh. GST-12 at 2.

40. The Windham Regional Plan is to be used by the WRC, town planning commissions, selectboards, state agencies, landowners and citizens to provide guidance for local planning and development initiatives; guide basic decisions for planning programs at the WRC; serve as a basis for evaluation and review of developments and subdivisions proposed under Act 250; and assist in determining compatibility of agency plans affecting land use with regional and local planning and development priorities. Thomas pf. at 10; exh. GST-12 at 3.

41. The Windham Regional Plan acknowledges the significant role the Station plays in providing 33% of Vermont's annual electrical requirements at the time the Windham Regional Plan was drafted; Vermont Yankee provides 38 percent and 36 percent of the electricity supplied to Vermont customers by Central Vermont Public Service Corporation ("CVPS") and Green Mountain Power Corporation ("GMP"), respectively. Thomas pf. at 10-11; exh. GST-12 at 65.

42. The Windham Regional Plan references the *Vermont Yankee Economic Study, 1999*, by the Vermont Department of Public Service, which found that in the mix of power supplies for CVPS and GMP, Vermont Yankee is the lowest-cost, long-term supply. Thomas pf. at 11; exh. GST-12 at 65.

43. The Project is consistent with the policies of the Vernon Town Plan and the Windham Regional Plan. Thomas pf. at 11.

Need for Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

44. The Project meets a present and future demand for service that could not be met more cost-effectively by demand-side management measures and programs; this finding is supported by findings 46 through 47, below.

45. The Board found in the Uprate Order that the Uprate Project is needed to meet the 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. *Id.*; see Docket No. 6812, Order of 3/15/04 at 20-22.

46. Because the Project is required for the Uprate Project, it follows that the Project meets a present and future demand for service that could not be met more cost-effectively by demand-side-management measures and programs. Thomas pf. at 11-12.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

47. The Project will not have an adverse impact on system reliability and stability; this finding is supported by finding 49, below.

48. The Project is proposed – and required by ISO New England – to maintain system stability and reliability following the Uprate Project as recommended in GE's system impact studies. *Id.* at 12.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

49. The Project will not have an adverse economic effect; this finding is supported by findings 51 through 53, below.

50. The Project represents a significant capital investment in Vermont that will be entirely borne by Entergy VY. *Id.*

51. The Board has previously determined that the Uprate Project, as considered by the Uprate Order, will result in an economic benefit to the state and its citizens. *Id.*

52. The Project is necessary to ensure system stability and reliability following the Uprate Project. *Id.*

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

[30 V.S.A. § 248(b)(5)]

53. 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 55 through 144, 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).

Public Safety

54. The Chief of the Vernon Police Department and the Chief of the Vernon Volunteer Fire Department have reviewed the Project plans: the Vernon Police Department determined that the Project will not have an unnecessary or adverse effect on the public health and safety of the residents of Vernon, and the Vernon Volunteer Fire Department determined that the Project does not appear to have an undue adverse effect on the public health and safety. Thomas pf. at 12-13; Boemig pf. at 10; exhs. PB-5, PB-6.

55. In addition, the existing switchyards are covered, and the proposed expansion of the 115 kV Switchyard will be covered, with crushed stone for personnel safety; in the event of a ground fault, the crushed stone will provide an insulating layer to stand on to prevent electrocution of personnel inside the switchyards; the crushed stone is extended out beyond the switchyard fences approximately five feet to protect personnel that are outside the switchyards but close to the fence. Thomas pf. at 13.

Outstanding Resource Waters

[10 V.S.A. § 1424a(d)]

56. The Project will not be located on or anywhere near any segment of any outstanding resource waters, as defined by the Vermont Water Resources Board. Boemig pf. at 2; exh. PB-2.

Water and Air Pollution

[10 V.S.A. § 6086(a)(1)]

57. The Project as proposed will not result in undue water or air pollution; this finding is supported by findings 59 through 65, below.

58. The Project will not cause air-pollution levels that create a threat to public health or a nuisance for nearby neighbors. Boemig pf. at 3.

59. The only potential for air pollution from operation of the Project is leakage of sulfur hexafluoride gas contained within the breakers. The American National Standards Institute ("ANSI") standard for sulfur hexafluoride gas leakage is 1% per year. Mitsubishi, the manufacturer of the subject breakers, warrants that the leakage will not exceed ½% per year. As each of the three breakers contains 58 pounds of sulfur hexafluoride gas, the total leakage should not exceed the ANSI standard of 1.74 pounds per year (3 breakers x 58 pounds x 1%), which is well below the 4.9 pounds per eight hours Action Level applicable to fluoride compounds under the Vermont Air Pollution Control Regulations at § 5-261(1)(a), Appendix C. *Id.*

60. There are no other sources of air emissions from the Project other than minimal dust during construction from the grading work required for the expansion of the switchyard, relocation of the existing, grass-lined drainage swale along the south side of the 115 kV Switchyard to the new edge of the expanded yard, and excavation required for concrete foundations for the Control Building, capacitor banks, related structures, breakers and light poles. *Id.*; exh. Entergy-1 (Sheets 1 & 2).

61. Dust will be controlled during construction by quickly seeding and mulching areas that are not covered with stone and through the use of water-spray trucks if necessary. Boemig pf. at 3-4.

62. Noise from the Project will be in keeping with the type and intensity of other noises at the Station as discussed more fully below under Criterion 8. *Id.* at 4; *see* findings 120 through 124, *infra*.

63. There will be no undue air pollution as a result of noise from the Project. Boemig pf. at 4.

64. The Project will not cause water pollution and will comply with applicable regulations adopted by the Departments of Environmental Conservation and Health. *Id.*

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

65. The Project is not in a headwaters area. *Id.*

66. Specifically, the Project area is not the headwaters of applicable waters as characterized by steep slopes and shallow soils and has a drainage area greater than 20 square miles. *Id.*

67. The Project area is not over 1,500 feet in elevation – the elevation is approximately 252 feet above sea level – and is not the watershed of a public-water supply designated by the Vermont Department of Health. *Id.*

68. The Project area is not a significant aquifer-recharge area. *Id.* at 4-5.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

69. The Project does not involve the disposal of waste. *Id.* at 5.

70. The Project will not generate industrial/manufacturing wastewater, chemicals, pesticides, batteries, radiation, hazardous wastes or any other harmful or toxic substances. *Id.*

71. The Project will not involve the injection of waste materials or any harmful or toxic substances into groundwater or wells. *Id.*

72. Any soil and subsurface materials extracted as part of the Project will remain on site. *Id.*

73. Any construction debris from the Project, such as cardboard, will be taken to the Brattleboro transfer station and disposed of at a licensed solid waste landfill. *Id.*

74. The Vermont Agency of Natural Resources ("ANR") confirmed that neither a General Permit For Stormwater Runoff From Construction Sites nor a Stormwater General Permit is required for the Project. *Id.* at 5-6; exhs. PB-7, PB-8.

Water Conservation

[10 V.S.A. §6086(a)(1)(C)]

75. This criterion is not applicable to the Project; the Project will not have water-supply or wastewater connections, and therefore no additional water will be used as a result of the Project. Boemig pf. at 6.

Floodways

[10 V.S.A. § 6086(a)(1)(D)]

76. The Project site is outside of the 100-year floodway and outside of the floodway fringe. *Id.*; exh. PB-3.

Streams and Shorelines

[10 V.S.A. §§ 6086(a)(1)(E) & (F)]

77. The Project as proposed will have no impact on the natural condition of the Connecticut River or its shoreline; this finding is supported by findings 79 through 85, below.

78. There are no streams in the Project area; the closest river shoreline is the Connecticut River. Boemig pf. at 7.

79. At its closest point, the Project will be located more than 200 feet from the Connecticut River's riverbank. *Id.*

80. No construction will occur within 200 feet of the riverbank. *Id.*

81. The Project will have no impact on the natural condition of the Connecticut River, its shoreline, vegetation or stability. *Id.*

82. The Station is a secure site, so no access to the water for recreation is presently provided from the property. *Id.*

83. The Project will be minimally visible, if visible at all, from the Connecticut River because it will be largely screened from view by the existing vegetation along the riverbank. *Id.*

84. The visual character of the Project site will be in keeping with the industrial nature and existing lighting of the Station. *Id.*

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

85. Based on a review of the National Wetlands Inventory Mapping, there are no significant wetlands in the area of the Project. *Id.*; exh. PB-4.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §§ 6086(a)(2) & (3)]

86. As the Project will not have water-supply or wastewater connections, this criterion is not applicable to the Project. Boemig pf. at 8.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

87. The Project as designed will not result in unreasonable soil erosion or reduce the ability of the land to hold water; this finding is supported by findings 89 through 92, below.

88. Due to the small scale of the Project, the relatively flat nature of the Project site, and the absence of significant drainage ways or streams around the construction site, the risk of environmental damage due to erosion is minimal. *Id.*; exh. Entergy-1 (Sheet 3 of 3).

89. Since the area disturbed will be less than one acre (less than 10,000 square feet is expected), the Project will not require a Construction General Permit (General Permit 3-9001 For Stormwater Runoff From Construction Sites); the ANR confirmed this conclusion by letter dated September 8, 2004. Boemig pf. at 8-9; exh. PB-7.

90. Similarly, as confirmed by a letter from the ANR, due to the small amount of impervious area added (less than 5,000 square feet), the Project will not require a Stormwater General Permit (General Permit 3-9015 For New Stormwater Discharges To Waters That Are Not Principally Impaired By Collected Stormwater Runoff). Boemig pf. at 8-9; exh. PB-8.

91. The Project as designed will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result. Boemig pf. at 9.

Transportation Systems

[10 V.S.A. § 6086(a)(5)]

92. The Project will not cause unreasonable congestion or unsafe conditions with respect to the only applicable transportation facilities: local highways; this finding is supported by findings 94 through 95, below.

93. Aside from a limited temporary increase in construction vehicles during construction, the Project's limited traffic will not cause unusual congestion or unsafe transportation conditions.

Id.

94. Once the Project is completed, traffic flow to and from the Station will be unaffected.

Id.

Educational Services

[10 V.S.A. § 6086(a)(6)]

95. The Project will have no impact on educational services. It will not change employment at Vermont Yankee and therefore the number of children to be educated in the area.

Id.

Municipal Services

[10 V.S.A. § 6086(a)(7)]

96. The Project will have no impact on the ability of the Town of Vernon to provide municipal services; this finding is supported by findings 98 through 104, below.

97. The Project has been reviewed with the Vernon Police Chief, the Vernon Fire Chief and the Vernon Selectboard. *Id.* at 10; Thomas pf. at 12-13.

98. The Vernon Police Department found that (i) it can provide adequate law enforcement protection services for the Project without interfering with the Police Department's regular scheduling and other duties, and (ii) the Project will not have an unnecessary or adverse effect on the public health and safety of the residents of Vernon. Boemig pf. at 10; Thomas pf. at 12; exh. PB-5.

99. The Vernon Volunteer Fire Department found that (i) it can provide adequate fire protection services to the Project without unduly burdening the Fire Department, and (ii) the Project does not appear to have an undue adverse effect on the public health and safety. Boemig pf. at 10; Thomas pf. at 12-13; exh. PB-6.

100. At its August 30, 2004, meeting, the Vernon Selectboard reviewed the Project plans and concluded that the Project will not interfere with the orderly development of the region and will not overburden municipal services; the Vernon Selectboard sent a letter to that effect on August 31, 2004. Thomas pf. at 7-8; Boemig pf. at 10; exh. GST-8.

101. The Project will not require municipal sewer or water-supply services. Boemig pf. at 11.

102. Vermont Yankee proposes no new public road construction for the Project. *Id.*

103. The Town of Vernon will not be required to provide any additional road maintenance services as a result of the Project. *Id.*

Aesthetics, Historic Sites and Rare and Irreplaceable Natural Areas

[10 V.S.A. § 6086(a)(8)]

104. The Project will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites or rare and irreplaceable natural areas; this finding is supported by findings 106 through 137, below.

105. The Project site includes installation of three capacitor banks and related switching breakers in the existing 115 kV Switchyard and expansion of the 115 kV Switchyard approximately 20 feet to the south to accommodate equipment and the 16-foot by 36-foot Control Building. *Id.* at 11; Thomas pf. at 5.

106. The existing switchyards, and approximately five feet surrounding the switchyards, are flat and covered with crushed stone for personnel safety. Boemig pf. at 11; *see* Thomas pf. at 6, 13.

107. The proposed 20-foot expansion of the 115 kV Switchyard is currently grass-covered and will be converted to crushed stone to be consistent with the rest of the switchyards. Boemig pf. at 11; *see* Thomas pf. at 6, 13.

108. As a result of the expansion of the 115 kV Switchyard, the existing grass-lined drainage swale along the south side of the yard will be relocated to the new edge of the expanded yard. Boemig pf. at 11; Thomas pf. at 6; exh. Entergy-1 (Sheets 1 & 2).

109. Two downcast, 150-watt, high-pressure-sodium lights will be installed – one above each of the two Control Building doors – to provide visibility and security for the Control Building and two, new 1,000-watt, mercury-vapor, downcast lights on 12-foot poles will be installed along the north fence of the 115 kV Switchyard. Boemig pf. at 11; Thomas pf. at 6.

110. Four existing 1,000-watt, mercury-vapor, downcast lights on 12-foot poles in the 115 kV Switchyard will be re-located within the yard for better coverage of the entire area as

follows: two existing, 1,000-watt, mercury-vapor, downcast lights on 12-foot poles adjacent to the south-side fence will be moved to the expanded south fence line and two existing, 1,000-watt, mercury-vapor, downcast lights on 12-foot poles located on the east side of the 115 kV Switchyard will be moved out to the east fence line. Boemig pf. at 11-12; Thomas pf. at 6; exh. Entergy-1 (Sheet 2 of 3).

111. The additional lighting will not substantially increase the amount or impact of lighting already visible from outside the Station site. Boemig pf. at 12; Thomas pf. at 7.

112. This Project will not affect the existing buffer of mature trees on lands now or formerly owned by USGen New England, Inc. between the Project and the Connecticut River, or the existing screen of trees between the Project and Governor Hunt Road. Boemig pf. at 12; Thomas pf. at 9.

113. While the additional lighting will be marginally visible, if at all visible, from Governor Hunt Road, the rest of the Project will not be readily visible outside the Owner Controlled Area or "OCA." Boemig pf. at 12.

114. The Project will be located approximately 252 feet above sea level, which is approximately eighteen feet below the elevation of Governor Hunt Road. *Id.*

115. The Project will be screened by the existing trees along the OCA fence line between the Station and the neighboring residential properties to the west. *Id.*

116. The Project, other than the additional lighting, will generally be protected from view from the Connecticut River and the east side of the OCA by the existing buffer of mature trees and the vegetated buffer along the river bank. *Id.* at 12-13.

117. The adjacent and visible nuclear-power Station is industrial in character and is comprised of concrete and metal-sided buildings with transmission lines, towers, transformers, and the existing 345 kV and 115 kV switchyards; the Station is also well lit. *Id.* at 13.

118. A breaker unit will be installed with each of the three new capacitors to provide a switching function to the system. *Id.*

119. When these breakers operate (open and closes) they make an audible "pop" sound, similar to other breakers currently installed in the 115 kV and 345 kV switchyards. *Id.*

120. Currently one of the existing breakers may operate (open and close) once or twice per month in response to a system demand while the proposed breakers will operate (open and close) on a more regular basis of approximately once or twice per breaker, per day. *Id.*

121. Sound levels reported by the breaker manufacturer are 90 decibels at 10 feet, and 70 decibels at 100 feet. *Id.*

122. The sound levels can be expected to attenuate further by geometrical divergence (spreading of the sound wave) to 50 decibels at the nearest residential landowner's property line, approximately 1,100 feet away; this level of sound intensity is 10 decibels lower than an average level or a conversation. Additionally, the sound duration will be instantaneous. *Id.*

123. The sound from the new breakers is in keeping with the other sounds at the Station, including such things as the public-address system (Gai-Tronics system) or equipment moving in the yard, and will not result in a significant change in sound coming from the site. *Id.* at 14.

124. The Project's design will be compatible with the appearance of the generating station. *Id.*

125. While the Project's lighting will be marginally visible from Governor Hunt Road, if at all visible, the Project will not stand out because of the buffer of existing trees, the elevation at which the Project is installed, and the dominance of Entergy VY's generating facilities. *Id.* at 14-15.

126. While noise from the switching breakers may be heard at the Station's property boundaries, this type and level of noise is not out of character with the existing switchyards and the Station. *Id.* at 15.

127. Because the surrounding area has been largely developed, the Project will have little impact on open space in the area. *Id.*

128. In general, the Project "fits" in the context of the area, taking into account the existence of the Station, the nature of the Project surroundings, the Project's design, visibility, and the Project's impact on open space in the area. *Id.* at 14-15.

129. The Project does not violate a clear, written community standard intended to preserve the aesthetic and scenic or natural beauty of the area, as it complies with the scenic

resources policies of the Vernon Town Plan and the Windham Regional Plan. *Id.* at 15; Thomas pf. at 8-11.

130. Taking into account the visual dominance of the Station and the developed character of the nearby area, the Project will not offend the sensibilities of the average person. Boemig pf. at 15-16.

131. Entergy VY has taken generally-available mitigating steps to improve the harmony of the proposed Project with its surroundings, including locating the Project within the existing 115 kV Switchyard to the extent possible, maintaining the existing buffer of trees between the Project and Governor Hunt Road and the Project and the Connecticut River and limiting the lighting to be installed to the extent necessary to provide visibility and security for the Control Building and expanded switchyard. *Id.* at 16.

132. The Project's aesthetic impact will not be undue. *Id.* at 15.

133. Based upon a review of the Project by Mr. Everett Marshall of the Vermont Department of Fish and Wildlife Nongame and Natural Heritage Program for potential impacts to rare, threatened and endangered species and a search of the Department of Fish and Wildlife's databases, there are no known occurrences in the Project area. [Mr. Marshall noted that there are several rare species associated with the Connecticut River adjacent to the Project site, but that he did not anticipate any impact to these species]. *Id.* at 16; exh. PB-9 (letter from Mr. Marshall).

134. The proposed Project will be visually considered part of the existing power-plant facility and will not significantly change the character of the area. Boemig pf. at 17.

135. Existing vegetation will screen the Project from other buildings in the area, especially during the summer months. *Id.*

136. As the Project area was extensively disturbed during the construction of the original 115 kV Switchyard and of the Station in the early 1970s, no archaeological review of the Project site is needed. *Id.*

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. § 6086(a)(8)(A)]

137. There are no known occurrences of rare, threatened or endangered species in the Project area; critical wildlife habitat will not be adversely affected by the Project. *Id.*; exh. PB-9; finding 134, *supra*.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

138. The Project 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, or the public's use or enjoyment of or access to, such facilities, services, or lands; this finding is supported by findings 140 through 144, below.

139. The most significant public-utility facility is Entergy VY's electric-generating facilities and that public utility will be enhanced by the Project. Boemig pf. at 18.

140. The Project is located approximately 1700 feet away from New England Central Railroad mainline and will not affect that facility. *Id.*

141. The Project will have minimal affect, if any, on the Connecticut River as the Project will be located more than 200 feet away from the riverbank and will have limited, if any, scenic impact and no water-quality impact on the river. *Id.*

142. The Project is located approximately 3700 feet from the Vernon dam and will have no effect on the hydroelectric station located at the dam. *Id.*

143. The construction and use of the Project will have no permanent traffic impact on state or local highways and a very limited impact during construction. *Id.*

Least-Cost Integrated Resource Plan

_____ [30 V.S.A. § 248(b)(6)]

144. As a wholesale utility that does not distribute electricity to the public, Entergy VY is not obligated to prepare and submit for approval an integrated-resource plan (or "IRP"). Thomas pf. at 13.

Compliance with Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

145. Vermont's Electric Energy Plan, dated December 1994, does not specifically mention the Project, but in general it treats the Station as a committed resource and encourages Vermont's utilities to minimize their cost of service. *Id.* at 14.

146. The Plan states (at page 2-1) that "[a] utility must at a minimum provide, and carry out the planning necessary to continue providing, adequate services at reasonable prices, meeting industry standards for reliability and quality of service." *Id.*

147. On November 30, 2004, the Department of Public Service issued a determination that the Project is consistent with the state's electric-energy plan. Letter from Department of Public Service to Entergy VY, dated November 30, 2004.

Outstanding Resource Waters

[30 V.S.A. § 248(b)(8)]

148. The Project will not be located on or anywhere near any segment of any outstanding resource waters, as defined by the Vermont Water Resources Board. Boemig pf. at 2; exh. PB-2.

Waste to Energy Facilities

[30 V.S.A. § 248(b)(9)]

149. The Project is not a waste-to-energy facility, and therefore this criteria is not applicable. Thomas pf. at 14.

Existing or Planned Transmission Facilities

[30 V.S.A. § 248(b)(10)]

150. The Project will be part of the existing 115 kV Switchyard that connects to existing transmission facilities; the Station will use the transmission facilities that already exist in the area without any undue adverse effect on Vermont utilities or customers. *Id.* at 15.

III. CONCLUSION

Based upon all of the above evidence, we conclude that the Project will be of limited size and scope, the petition does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248, the public interest is satisfied by the procedures authorized by 30 V.S.A. § 248(j), and the proposed Project will promote the general good of the state.

IV. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the State of Vermont Public Service Board that installation by Entergy Nuclear Vermont Yankee, LLC of three banks of capacitors and associated switching breakers, expansion of the 115 kV switchyard by 20 feet to accommodate related equipment and construction of a control building to house the controls, protection and test equipment required for the capacitors and their switching breakers, relocation of the existing, grass-lined drainage swale along the south side of the yard to the new edge of the expanded yard, and relocation and addition of lights to provide better coverage of the expanded switchyard and control building (the "Project") at the site of its existing electric-generation facility in the Town of Vernon, Vermont, will, subject to the conditions set forth in the certificate of public good, promote the general good of the State of Vermont in accordance with 30 V.S.A. § 248, and a certificate of public good shall be issued in the matter.

Dated at Montpelier, Vermont, this 29th day of December, 2004.

<u>s/Michael H. Dworkin</u>)	
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)	
<u>s/David C. Coen</u>)	
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<u>s/John D. Burke</u>)	

PUBLIC SERVICE
BOARD
OF VERMONT

OFFICE OF THE CLERK

Filed: December 29, 2004

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.