

**STATE OF VERMONT
PUBLIC SERVICE BOARD**

Petition of Vermont Transco, LLC , Vermont)
Electric Power Company, Inc. (“VELCO”),)
Burlington Electric Light Department (“BED”),)
and Green Mountain Power Corporation)
 (“Green Mountain Power”) for a Certificate of)
Public Good pursuant to 30 V.S.A. § 248 for the)
 “**East Avenue Loop**” Project, located in)
Williston, South Burlington, Colchester,)
Winooski, and Burlington, consisting of the)
following elements: (1) replacement of 4.8 miles)
of an existing single 115 kV line between)
VELCO’s Essex Substation (located in)
Williston) and its East Avenue Substation)
(located in Burlington) with two new 115 kV)
lines within the same corridor; (2) expansion of)
the East Avenue Substation; (3) installation of a)
new 1.5-mile 34.5 kV line from the East Avenue)
Substation to BED’s McNeil Substation (located)
in Burlington); and (4) installation of new and)
relocated equipment at the McNeil Substation)
(located in Burlington)

Docket No. _____

PETITION FOR CERTIFICATE OF PUBLIC GOOD

NOW COME Vermont Transco, LLC and Vermont Electric Power Company, Inc. (collectively “VELCO”); Burlington Electric Light Department (“BED”) and Green Mountain Power Corporation (“Green Mountain Power”) (collectively, “Petitioners”), and file this Petition, pursuant to 30 V.S.A. § 248 and Public Service Board (“Board”) Rule 5.400, requesting the Board to issue a Certificate of Public Good for the so-called East Avenue Loop Project (the “EAL” or “Project”).

By this Petition, the Petitioners represent as follows:

1. VELCO, BED and Green Mountain Power are each a “company” as defined by Section 201 of Title 30, Vermont Statutes Annotated, and as such are subject to the Board’s jurisdiction pursuant to Section 203 of Title 30.
2. VELCO’s office is located at 366 Pinnacle Ridge Road, Rutland, Vermont 05701.
3. BED’s office is located at 585 Pine Street, Burlington, Vermont 05401
4. Green Mountain Power’s office is located at 163 Acorn Lane, Colchester, Vermont 05446.
5. VELCO owns, operates and plans for the State of Vermont’s high voltage electric transmission system (115 kV and above)
6. BED owns, operates and plans for an electric distribution system serving the City of Burlington, Vermont.
7. Green Mountain Power owns, operates and plans for an electric distribution and sub-transmission system serving customers in Chittenden County, Vermont and other areas of the State.
8. VELCO operates Vermont’s high voltage transmission system to assure the integrity of the portion of the regional bulk power system for which it is responsible, and to assure adequate and reliable transmission of electricity to the twenty-one distribution electric utilities that it serves in Vermont.

9. Petitioners have an obligation pursuant to Section 219 of Title 30, to furnish reasonably adequate service, accommodation and facilities to the public.
10. By this Petition, Petitioners request the Board to approve, pursuant to Section 248 of Title 30, a series of transmission and sub-transmission network upgrades in Chittenden County, Vermont, known as the so-called "East Avenue Project" ("Project" or "EAL"). The Project is necessary to fulfill Petitioners' obligation to provide reliable and adequate electric service to the public.

Project Components

11. The Project as proposed consists of the following elements:
 - i. Replacement of the existing 4.8-mile 115 kV line in the approximately 150' VELCO right-of-way ("ROW") between VELCO's Essex Substation and its East Avenue Substation with two new 115 kV lines, located essentially within the same ROW. While the existing support structures consist of wooden H-frames, the new support structures will be predominantly single pole davit arms.
 - ii. Expansion of the existing East Avenue Substation adjacent to Centennial Field to 110' x 376.5' to accommodate new equipment, including three transformers (two for VELCO, one for BED), four circuit breakers, and a new control house;
 - iii. Installation of a new 1.5-mile 34.5 kV line from the East Avenue Substation to the BED Substation at the McNeil Generation Station (located off of Intervale Road), with most of the new line to be installed underground from Centennial Road to just west of Colchester Avenue, and along the existing underground conduit on Riverside Avenue until Intervale Road;

- iv. Construction of a new substation within the existing mostly-vacant compound at the McNeil Generating Station, which will accommodate a new transformer, an existing transformer to be relocated from BED's Lake Street Substation, and three circuit breakers; and
- v. Removal of several BED 13.8 kV circuits connected to BED's Lake Street Substation, including the overhead lines that span the Burlington Waterfront Park.

Project Need

- 12. The EAL study area covers the City of Burlington and the surrounding Chittenden County area – South Burlington, Williston, Colchester, Winooski, Essex, Richmond, and Bolton.
- 13. The present electric sub-transmission and distribution network in the EAL Chittenden County area cannot provide adequate and reliable electric service to the customers served in that area.
- 14. Under the present system configuration and loads, significant amounts of Chittenden County's electric load be lost under a number of single contingency scenarios, including loss of the single East Avenue transformer or loss of the single 115 kV K-25 line that is the sole radial connection between the East Avenue and Essex Substations.
- 15. The East Avenue Substation typically supplies 40% to 50% of the City's load, including critical facilities like Fletcher Allen Health Care, the University of Vermont and its research facilities, the City of Burlington

water and wastewater processing facilities, and the City of Burlington downtown commercial core.

16. In addition, engineering analysis reveals (among other potential contingencies) that failure of one of the two VELCO Essex Substation 115/34.5 kV transformers places Green Mountain Power's Chittenden County load (165 MW) in jeopardy, which includes BED load served at the Lake Street Substation (approximately one-third of the City of Burlington's electric load).
17. The level of risk inherent in the existing system is unacceptable and jeopardizes the economy, public health and vital infrastructure.
18. The East Avenue Loop Project addresses these serious reliability problems. The East Avenue Loop will provide a redundant delivery supply point to East Avenue so that power is not instantaneously lost for failure of critical facilities and provide necessary reinforcement to the sub-transmission and distribution network in this area.
19. This type of proposed network supply (two or more 115 kV transmission supplies to an urban area feeding at least two transformers) is commonplace throughout New England. The second 115 kV tie between the East Avenue and Essex Substations and the second East Avenue transformer will create such a supply system for Burlington and northern Chittenden County. The State's largest city and the critical load that it serves warrants this level of redundancy.

20. The Petitioners evaluated several transmission and non-transmission alternative solutions to the reliability problem, including energy conservation, generation and demand response. None could cost efficiently meet the need for this Project.

Project Cost

21. The estimated total cost of the Project is \$43,484,000.
22. Approximately 64% of the Project's total cost is eligible for Pool Transmission Facilities ("PTF") regionalized cost recovery.

Project Schedule

23. Petitioners propose to commence construction as soon as possible. Currently, the estimated construction schedule is from fourth quarter of 2008 into third quarter of 2010.

Witnesses

24. In support of this petition, Petitioners submit testimony and exhibits sponsored by the following witnesses:

Witness

Subject

- | | |
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| 1. Dean L. LaForest | Introduces other Petitioners' witnesses; provides an overview of the electrical system resources serving the EAL study area; summarizes the Project elements, need, and options evaluated and design parameter developed to limit Project impacts; and |
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- discusses the expected Project cost treatment, Project schedule and timing of needed CPG approvals.
2. Munir K. Kasti
Describes the need for the Project upgrades to allow BED to provide adequate and reliable electric service to its customers in the study area, describes the Chittenden County West Planning Study results for BED, and the Project's compliance with BED's IRP.
 3. Terry Cecchini
Describes the need for the Project upgrades to allow Green Mountain Power to provide adequate and reliable electric service to its customers in the study area, describes the Chittenden County West Planning Study results for Green Mountain Power, and the Project's compliance with Green Mountain Power's IRP.
 4. Hantz A. Pr sum 
Describes the analytical studies performed by VELCO to examine the Project's impact upon the high voltage transmission network, and addresses the critical load levels for the Green Mountain Power EAL service area
 5. Kenneth A. Nolan
Describes BED's energy efficiency efforts, the analytical studies performed to determine the feasibility of generation as a non-transmission alternative to the EAL, and consistency of the EAL with the Docket No 7081 MOU.
 6. David W. Grimason
Describes the results of analysis to determine the feasibility of energy conservation as an alternative to the EAL
 7. Gerald Ostrander,
Munir Kasti,
and Howard Bergendahl
Describe the EAL cost estimate and discuss concerns regarding archeological costs

8. Brad Fossom,
John Askew,
Mike Barrett, and
David Ertz Describe the detailed design and construction schedule for the Project.
9. Michael Buscher Provides an aesthetics analysis of the Project.
10. Jeff Nelson and
Dan Prasch Describe the Project's environmental impact pertaining to: Outstanding Water Resources, Headwaters, Floodways, Streams, Shorelines, Wetlands, Soil Erosion, Rare and Irreplaceable Natural Areas, Wildlife Habitat, and Endangered Species and Water Quality.
11. Jeffrey Disorda Describes VELCO's Vegetation Management practices.
12. Scott S. Mallory Describes the Public Outreach process, including design changes made due to public input, the Project's potential impacts and effects upon orderly development of the region, and the economic benefits to the State.
13. Hugh H. Henry &
Michael Buscher Describe the Project's potential effects upon historic properties.
14. Deborah Cox Describes the Project's potential impacts upon archaeological resources.
15. Hope Luhman, Ph.D. Supports the Louis Berger Group report and the scope of work for archeological work associated with the Project.
16. Peter Alexis Valberg, Ph.D. Addresses the electric and magnetic fields associated with the Project.
17. Kenneth Kaliski, P.E. Describes the Project's potential noise impacts and recommended mitigation measures.

DATED at Burlington, Vermont, this 16th day of April, 2007.

DOWNS RACHLIN MARTIN PLLC
Attorneys for Petitioners

By: Kimberly Hayden / PTS
Kimberly K. Hayden, Esq.
Downs Rachlin Martin PLLC
For: Vermont Electric Power Company, Inc.
and VT Transco, LLC
90 Prospect Street
PO Box 99
St. Johnsbury, VT 05819-0099
Tel: (802) 748-8324
Fax: (802) 748-4394

By: William J. Dodge
William J. Dodge, Esq.
Downs Rachlin Martin PLLC
For: Vermont Electric Power Company, Inc.
and VT Transco, LLC
P.O. Box 190
199 Main Street
Burlington, Vermont 05402-0190
Tel: (802) 863-2375
Fax: (802)-658-0905

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