

**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. 7314

**PREFILED TESTIMONY OF
MUNIR KASTI
ON BEHALF OF
PETITIONERS**

November 4, 2008

The purpose of this post-Certificate of Public Good testimony from Mr. Kasti is to describe the reasons and cost for the proposed addition of new switchgear at the East Avenue Substation.

TABLE OF CONTENTS

1. Introduction.....	1
2. Proposed BED Switchgear	2
3. Revised Cost Estimate for East Avenue Substation	6
4. Conclusion	7

EXHIBITS

None.

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- 1 **1. Introduction**
- 2 Q1. Please state your name.
- 3 A1. Munir Kast.
- 4
- 5 Q2. Have you previously testified in this proceeding?

1 A2. Yes. I have previously provided testimony on the need and costs associated with
2 the East Avenue Loop Project (“EAL” or “Project”), including the so-called East
3 Avenue Substation located adjacent to Centennial Field in Burlington.

4
5 Q3. What is the purpose of your testimony?

6 A3. The purpose of this post-Certificate of Public Good testimony is to bring to the
7 attention of the Board and the non-Petitioners the proposed addition by
8 Burlington Electric Department (“BED”) of a new 13.8 kV switchgear at the East
9 Avenue Substation.

10

11 **2. Proposed BED Switchgear**

12 Q4. Please describe the proposed BED addition to the East Avenue Substation.

13 A4. BED proposes to install a new 13.8 kV switchgear assembly and related control
14 equipment at the East Avenue Substation. The proposed new equipment will
15 consist of two new 13.8 kV metalclad switchgear bus sections, each with one
16 incoming line position and four distribution feeder circuit breakers. The new
17 switchgear will be housed in a climate-controlled metal walk-in enclosure
18 complete with operating aisles, a breaker maintenance space, control batteries,
19 AC station service and associated equipment. Each switchgear bus section will be
20 supplied from one of the two VELCO 13.8 kV bus sections. Following
21 installation of the new switchgear assembly, the existing BED distribution feeders

1 will be served by the new equipment, and the existing 13.8 kV switchgear will be
2 removed.

3 A revised plan for the East Avenue Substation showing the switchgear is attached
4 as Exhibit PET 8.3.2.1 to Mr. Ostrander's Prefiled Testimony, being filed
5 contemporaneously with my testimony.
6

7 Q5. What is the purpose of the new switchgear?

8 A5. The new switchgear will contain two independent 13.8 kV bus sections, each
9 supplying approximately one half of BED's present 13.8 kV distribution feeders,
10 which are presently served by just one 13.8 kV switchgear bus. Installation of the
11 new switchgear will extend the redundant level of reliability that the Project was
12 designed to accomplish (i.e., two 115 kV lines, two transformers) to the 13.8 kV
13 distribution level within the substation. This is consistent with the need for the
14 Project as approved in the CPG. *See, e.g.*, Docket No. 7314, Order of 5/29/2008
15 at 9-10.
16

17 Reliability at the distribution level will be improved by allowing BED to split or
18 segment its distribution feeder loading between both sections of the switchgear to
19 avoid losing all connected customer load should a single switchgear bus drop out
20 of service. The splitting of load between two sections of the switchgear will also
21 allow BED to maintain a higher level of reliability when one switchgear bus is
22 taken out of service for maintenance. The proposed configuration will allow

1 feeder load to be switched to the other switchgear bus section and remaining
2 substations circuits via field tie switches without incurring customer outages.

3 The new switchgear will also improve reliability by allowing BED to add
4 distribution circuits out of the East Avenue Substation in the future as conditions
5 dictate to minimize the number of customers and amount of load lost during a
6 single feeder outage.

7

8 Q6. Why was this equipment not originally included among the elements of the
9 Project, and why should it be included as part of the Project now?

10 A6. The additional switchgear was investigated in planning and preliminary design
11 studies for the East Avenue Loop Project, but was not included in the proposed
12 Project because projections showed it was not needed until higher load levels
13 were reached in future years. Once engineering progressed beyond design to
14 construction, it was determined that installation of the second set of switchgear
15 now would bring the above-described reliability benefits to BED, and also create
16 cost savings by integrating its design and construction into the current Project.

17

18 Q7. How does installation of the second switchgear bus now save money?

19 A7. Integration of the second switchgear into the current Project will make planning
20 and construction easier. The East Avenue Substation is owned in part by
21 VELCO, and in part by BED. Planning for the Project as permitted while
22 reserving space for BED's installation of additional switchgear in the future has

1 proved challenging because space in the East Avenue Substation is confined. The
2 Petitioners have determined that it is more cost-effective to locate and place
3 underground conduits and connections and install the second switchgear now
4 within the confined space instead of facing a more challenging and costly re-
5 excavation and placement in the future after the first set of conduits and
6 equipment are in place. Design and placement during the Project timeframe
7 avoids the risk that a future set of switchgear could not be easily designed and
8 placed into the confined substation space that is currently being reserved for it.

9
10 Q8. Will the new switchgear have any effects on the Act 250 criteria incorporated
11 pursuant to 30 V.S.A. § 248(b)(5), such as archeological resources, noise, or
12 aesthetics?

13 A8. No. The switchgear will not create any additional noise within the substation.
14 Based on prior investigations by The Louis Berger Group, Inc., the results of
15 which have been submitted to and accepted by the Division of Historic
16 Preservation independent archeologist, Stuart A. Eldridge Ph.D., R.P.A, the
17 proposed switchgear will have no impact on archeological resources.

18
19 The additional switchgear will not be noticeably visible as it will fit into the space
20 adjacent to the space currently occupied by BED switchgear within the substation.
21 As the Board previously determined, the substation itself will be sufficiently
22 screened by a new cedar hedge. CPG Order at 317 (referencing fence, hedgerow,

1 and landscape mitigation plantings as providing “reasonable and effective
2 mitigation for this area”).

3

4 Q9. Are any changes being proposed to the final substation design for the McNeil
5 Substation?

6 A9. No: the plans filed with the Board as Exhibits PET 8.5.1 through 8.5.5 continue to
7 reflect the final design for the McNeil Substation.

8

9 **3. Revised Cost Estimate for East Avenue Substation**

10 Q10. What will be the total cost for the additional equipment and installation that BED
11 proposes to use at the East Avenue Substation?

12 A10. BED’s cost for the additional the switchgear is estimated at \$2,028,000. This
13 includes the switchgear cost, installation, transferring BED’s circuits to the new
14 switchgear, and all of BED’s overhead.

15

16 Q11. What is the estimated impact of this new switchgear cost to Burlington
17 ratepayers?

18 A11. In developing BED’s 2008 Integrated Resource Plan the replacement of this
19 switchgear had been anticipated to occur in 2014 as part of BED’s normal
20 maintenance plan (see section 4.11.11 of BED’s 2008 IRP as filed with the
21 Board). Capital funds were included in the IRP for this replacement, and were
22 factored into the long-term financing plans for the company in determining the

1 overall least cost plan. The proposal to install the equipment in 2010 instead of
2 2014 merely accelerates the capital investment by 4 years in order to achieve
3 higher level of reliability, and significant savings in construction costs and
4 permitting. Accelerating the installation is not anticipated to have any material
5 impact on BED's rates.

6

7 Q12. Have Petitioners prepared a revised cost estimate for the East Avenue Substation?

8 A12. Yes. A revised cost estimate is being submitted with Mr. Ostrander's prefiled
9 testimony, and is found at Exhibit PET 7.2.1.

10

11 **4. Conclusion**

12 Q13. Does this conclude your testimony at this time?

13 A13. Yes, it does.