

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Petition of Vermont Transco LLC and Vermont Electric Power Company, Inc. to amend the certificate of public good issued in Docket No. 4905, as amended in Docket No. 4905-A	Case No. 25-____-PET
--	-----------------------------

**PREFILED TESTIMONY OF
JASON PEW
ON BEHALF OF
VELCO**

October 21, 2025

Mr. Pew’s testimony describes the proposal to increase the operating capacity of the Highgate Interconnection Facilities from 225 MW to 250 MW, addresses the cost and schedule of the proposal, and analyzes potential impacts under the applicable Section 248 criteria.

EXHIBITS

Exhibit PET-JP-1

Resume of Jason Pew

Exhibit PET-JP-2

Presidential Permit Amendments

Exhibit PET-JP-3

Converter Station Usage History

Exhibit PET-JP-4 (Conf.)

Highgate Converter Performance Review

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Petition of Vermont Transco LLC and Vermont Electric Power Company, Inc. to amend the certificate of public good issued in Docket No. 4905, as amended in Docket No. 4905-A

Case No. 25-____-PET

**PREFILED TESTIMONY OF
JASON PEW
ON BEHALF OF
VELCO**

1. Introduction.

Q1. Please state your name, occupation, and address.

A1. My name is Jason Pew. I am Director of Operations and Energy Management Systems with Vermont Electric Power Company, Inc. (“VELCO”). My business address is 366 Pinnacle Ridge Road, Rutland, Vermont 05701.

Q2. Please summarize your educational background and relevant professional experience.

A2. I have a Bachelor’s of Arts degree in Mathematics with applied courses in physics and business management. I joined VELCO in 2008 and have since advanced through a series of positions related to system operations, including System Operator, Operations Engineer, and Manager of Operations Support. In 2020, I transitioned to my current role as Director of Operations and EMS. I have knowledge of North American Reliability Corporation Standards, Northeast Power Coordinating Council Directories, and both ISO New England (“ISO-NE”) and VELCO Operating Procedures. Emergency response and

1 recovery planning are inherent to operational excellence and as such are addressed
2 regularly by VELCO Operations through annual emergency procedure reviews/revisions,
3 annual company-wide exercises including biennial GridEx participation with other
4 Transmission Operators in New England, and System Operator simulations using our
5 Operations Training Simulator. Additional detail regarding my work experience is
6 provided in my resume, which is offered as Exhibit PET-JP-1.

7 **Q3. What is the purpose of your testimony?**

8 A3. My testimony supports VELCO's Petition to amend the certificate of public good
9 ("CPG") for the so-called Highgate Interconnection Facilities to increase the authorized
10 operating capacity of the interconnection-line portion of the Facilities from 225 MW to
11 250 MW (the "Capacity Upgrade"). To that end, I describe the proposed Capacity
12 Upgrade, address its cost and schedule, and explain how it complies with the applicable
13 Section 248 criteria.

14 **Q4. Does your testimony or the petition materials analyze potential impacts from the**
15 **Capacity Upgrade under Section 248 criteria (b)(1), (b)(5), or (b)(8)?**

16 A4. No. As explained below, the Capacity Upgrade requires no physical changes to the
17 Highgate Interconnection Facilities. Consequently, there will be no impact on criteria
18 (b)(1), (b)(5), or (b)(8).

1 **Overview of the Capacity Upgrade**

2 **Q5. Please describe the existing Highgate Interconnection Facilities.**

3 A5. The Highgate Interconnection Facilities consist of two principal components: (i) a
4 transmission line, designated as the 1429 Line, which was constructed for 345 kV service
5 but operates at 120 kV, and (ii) a back-to-back converter station (the “Converter
6 Station”). The 1429 Line extends approximately 7.5 miles from the U.S.-Canada
7 international border near Franklin, Vermont, to the Converter Station in Highgate,
8 Vermont. The Converter Station converts electricity imported from the Hydro-Québec
9 (“HQ”) electric system to direct current and then back to alternating current, enabling
10 delivery into VELCO’s existing 115 kV transmission system, which is part of the ISO-
11 NE control area. The Highgate Interconnection Facilities are presently operated at a
12 maximum level of 225 MW in accordance with the certificate of public good issued in
13 Docket No. 4900, as amended in Docket No. 4905-A.

14 **Q6. Does the Capacity Upgrade require any physical changes to the Highgate**
15 **Interconnection Facilities?**

16 A6. No, as previously indicated. The Capacity Upgrade is administrative in nature and will
17 not involve any construction activities or physical alterations to the Highgate
18 Interconnection Facilities.

19 **Q7. Why is VELCO proposing the Capacity Upgrade?**

20 A7. VELCO is proposing the Capacity Upgrade to enhance the reliability of the electric
21 system in Northern Vermont. In particular, the Capacity Upgrade will allow for

1 increased imports from HQ to provide a backup source of power for Vermont electric
2 customers in the event of an energy shortfall, such as during extended periods of extreme
3 cold. During these circumstances, or during other regional emergencies, ISO-NE may
4 require all transmission facility owners, including VELCO, to shed electrical load within
5 their service territories. Vermont Electric Cooperative, Inc. (“VEC”) has the unique
6 ability to mitigate this load-shedding risk by disconnecting portions of its electrical load
7 in Northern Vermont from ISO-NE’s system and serving that load directly through power
8 scheduled on the 1429 Line from HQ. VEC’s ability to shift this portion of its load can
9 reduce outages for its members and additional distribution utilities that VEC supplies.
10 This portion of VEC’s system is called the Highgate Block Load.

11 The Capacity Upgrade would provide up to 23 MW of backup supply to serve VEC’s
12 Highgate Block Load while allowing the Converter Station to operate at its full 225 MW
13 capacity. If implemented, the Capacity Upgrade would increase the Converter Station’s
14 throughput by no more than 2 MW, rather than the full 25 MW of additional capability.

15 **Q8. Why would the Capacity Upgrade only increase power flows across the Converter**
16 **Station by up to 2 MW?**

17 A8. The Converter Station is limited to a maximum throughput of 225 MW due to both
18 physical and regulatory constraints, and VELCO is not proposing to increase that limit.
19 Rather, VELCO proposes to apply a portion of the Capacity Upgrade to offset
20 approximately 2 MW of transmission losses incurred along the 1429 Line between the
21 international border and the Converter Station. Under the current CPG, which limits the

1 1429 Line and the Converter Station to 225 MW, these losses have resulted in the
2 Converter Station operating at an effective maximum of about 223 MW. If the Capacity
3 Upgrade is approved, those losses could be offset, enabling the Converter Station to
4 operate at its full 225 MW capability with an interchange at the international border of
5 approximately 227 MW, and with the remaining 23 MW of new capacity available for
6 the Highgate Block Load.

7 **Q9. How, if at all, would the Capacity Upgrade impact the potential for export**
8 **constraints on the electric transmission system in the area of Northern Vermont**
9 **known as the Sheffield-Highgate Export Interface (“SHEI”)?**

10 A9. In limited circumstances, the Capacity Upgrade has the potential to affect Vermont
11 utilities with resources located in the SHEI, but VELCO’s analysis indicates that the
12 likelihood of such outcomes is very low. The anticipated use of the Capacity Upgrade
13 could affect constraints within the SHEI in two ways: (i) by altering the amount of
14 electrical load within the SHEI and (ii) by increasing the maximum electrical throughput
15 of the Converter Station.

16 The SHEI is directly influenced by the amount of electrical load within the constrained
17 area. When load remains within the SHEI, less energy must be exported; conversely,
18 when load is shifted outside of the SHEI, such as through the use of the Highgate Block
19 Load, additional exports may be required. The potential amount of this load shift, when
20 the Converter Station is online, is approximately 23 MW.

1 In addition, power flowing through the Converter Station effectively adds to the
2 resources within the constrained area. Because the SHEI includes the Converter Station
3 imports within its boundary, when the Converter is online and importing, it directly
4 contributes to the amount of electricity exported from the area. The incremental impact
5 of the Capacity Upgrade is approximately 2 MW, which in certain circumstances may
6 narrow the margin between actual real-time exports and the applicable export limit.

7 **Q10. Why is it unlikely that the Capacity Upgrade would adversely affect transmission**
8 **constraints in the SHEI?**

9 A10. There are several reasons why adverse effects on the SHEI are unlikely. First, imports
10 over the Converter Station have declined significantly in recent years. For example,
11 utilization in 2024 was 30.2% of the available hours of operation compared to a 10-year
12 average of 83.3%. Please refer to Exhibit PET-JP-3 for details on the Converter usage
13 over the past decade. This reduced utilization provides additional margin in the region
14 that more than offsets the potential 2 MW increase in Converter throughput from the
15 Capacity Upgrade. Second, the operator of the Sheffield Wind Facility, which was
16 commissioned in 2011, has submitted a request to repower the Facility from 40 MW
17 down to 35 MW (ISO-NE Queue Position #1464). This anticipated 5 MW reduction in
18 local generation will lessen the need to export power from within the SHEI. Third, the
19 Franklin County Line Upgrade (“FCLU”) to the K42 transmission line is anticipated to
20 increase the SHEI export limit by up to 20 MW.¹ Taken together—the reduced usage of

¹ See *Petition of Vermont Electric Power Company*, Case No. 23-3734-PET, Order of 08/19/24 at 9, Finding 33.

1 the Converter Station, the planned decrease in SHEI generation, and the added
2 transmission capacity from the FCLU—these factors demonstrate that the incremental
3 2 MW in throughput capability of the Converter Station is highly unlikely to cause
4 adverse impacts within the SHEI. It is also important to note that the Converter Station is
5 authorized to operate at a maximum capacity of 225 MW, and VELCO is not proposing
6 to increase that limit. Instead, VELCO proposes to apply a portion of the Capacity
7 Upgrade to offset transmission losses on the 1479 Line, thereby enabling the Converter
8 Station to operate at its full 225 MW capability.

9 With respect to the use of the Highgate Block Load, VELCO understands that VEC
10 intends to transfer this load onto the 1479 Line either when ISO-NE requires the region to
11 shed load or when the SHEI is not constrained. Utilization of the Capacity Upgrade
12 under either scenario would not cause adverse impacts to the SHEI. Under the first
13 scenario, ISO-NE would already be directing utilities to reduce load, and shifting the
14 Highgate Block Load to the 1479 Line would serve as an effective mitigation measure by
15 satisfying ISO-NE's requirement while maintaining electrical service for Vermont
16 electric customers. Under the second scenario, shifting the load when the SHEI is
17 unconstrained would avoid exacerbating existing constraints.

18 **Q11. Did VELCO review the Capacity Upgrade with affected distribution utilities?**

19 A11. Yes. VELCO reviewed the Capacity Upgrade with all potentially affected distribution
20 utilities directly or through representation of the Vermont Public Power Supply
21 Authority. There was additional discussion among those utilities with regard to the

1 potential effects that the Capacity Upgrade might have on the SHEI that resulted in an
2 agreement amongst them. After reaching this agreement, affected utilities did not object
3 to the Capacity Upgrade as described in this testimony.

4 **Q12. Is the Capacity Upgrade subject to any other approvals?**

5 A12. Yes. The Capacity Upgrade was reviewed and approved by the U.S. Department of
6 Energy (“DOE”) through amendments to the Presidential Permit governing the Highgate
7 Interconnection Facilities. Specifically, the proposal was authorized under Presidential
8 Permit Amendments 82-3 and 82-4, which are provided as Exhibit PET-JP-2.

9 **Q13. What is VELCO’s schedule for implementing the Capacity Upgrade?**

10 A13. This is an administrative exercise that will require procedural revisions to applicable HQ,
11 VELCO, and ISO-NE operating documents. VELCO will initiate this process after the
12 Commission issues an amended CPG authorizing the Capacity Upgrade, with a goal of
13 having it operational for this upcoming winter season.

14 **Q14. What is the cost estimate for the Capacity Upgrade?**

15 A14. Costs associated with this administrative exercise are limited to support of the CPG
16 revision along with the procedural modifications noted previously.

17 **Public Outreach**

18 **Q15. Please describe VELCO’s public-outreach efforts concerning the Capacity Upgrade.**

19 A15. In addition to discussions with the distribution utilities, VELCO has engaged in the
20 following public outreach:

- On April 24, 2025, VELCO submitted advance notice of the Petition (Case No. 25-0779-AN) to adjoining landowners, the Town of Highgate, the Northwest Regional Planning Commission (“NRPC”), and other recipients upon filing with ePUC in Case No. 25-0779-AN.

- On May 14, 2025, VELCO discussed the Capacity Upgrade with the Project Review Committee for the NRPC.

Q16. Did VELCO receive any comments on the Advance Notice?

A16. The NRPC determined that the Capacity Upgrade was in conformance with the Regional Plan and filed a letter to that effect in Case No. 25-0779-AN. VELCO did not receive any other comments on the Advance Notice.

Need for Present and Future Demand for Service – 30 V.S.A. § 248(b)(2)

Q17. Is the Capacity Upgrade required to meet the need for present and future demand for service that could not otherwise be provided in a more cost-effective manner through energy conservation programs and measures and energy efficiency and load management measures?

A17. VEC’s need for electricity to serve the Highgate Block Load could not be met in a more cost-effective manner through energy conservation programs and measures and energy efficiency and load management measures. The only practical alternative to the Capacity Upgrade would be to maintain the status quo of the Highgate Interconnection Facilities. VELCO determined that this alternative was unacceptable because it could result in VEC being forced to shed load during emergencies, such as a winter energy shortage,

1 potentially leaving VEC members and customers without power during extended periods
2 of cold weather and increasingly severe climate-related weather events. As part of its
3 alternatives analysis, VELCO was unable to identify any other economically or
4 structurally feasible solutions to mitigate outages or supply additional energy to Northern
5 Vermont during potential energy shortages.

6 **Impact on System Stability and Reliability – 30 V.S.A. § 248(b)(3)**

7 **Q18. Will the Capacity Upgrade have an adverse effect on system stability and**
8 **reliability?**

9 A18. No. Impacts on system stability and reliability from the Capacity Upgrade have been
10 evaluated through simulations performed by VELCO, which demonstrate no adverse
11 impacts to voltage performance or thermal capability. These simulations and results are
12 documented in the confidential report entitled *Highgate Converter Updated Performance*
13 *Review* (the “Report”), submitted as Exhibit-JP-4 (Conf.). The Report has been filed
14 under seal in accordance with Commission rules and precedent because it contains
15 Critical Energy Infrastructure Information. It is the same Report that was provided to the
16 DOE in support of authorizing the increase to 250 MW of operating capacity in the
17 amended Presidential Permit for the Highgate Interconnection Facilities. The findings at
18 page 27 of the Report conclude that system performance is acceptable with cross-border
19 flows of 250 MW.

20 The Capacity Upgrade will not alter the functionality of the Converter Station, which will
21 continue to operate in the same manner as it does today, and therefore will not adversely

1 affect system stability. In addition, the Project will improve overall system reliability by
2 providing a backup energy supply for VEC members and customers within the Highgate
3 Block Load. For these reasons, the Capacity Upgrade will not have an adverse effect on
4 system stability or reliability.

5 **Economic Benefits – 30 V.S.A. § 248(b)(4)**

6 **Q19. Will the Capacity Upgrade result in an economic benefit to the State and its**
7 **residents?**

8 A19. Based on input from my VELCO team members, VEC, and other stakeholders, I
9 understand that having this capability will provide significant reliability benefits for VEC
10 members and other Vermont distribution utilities and their customers. Utility customers
11 will enjoy these non-quantified economic benefits when the Capacity Upgrade allows
12 them to avoid service interruptions during extended periods of cold weather or other
13 emergencies that could lead ISO-NE to order VELCO and other Vermont distribution
14 utilities, such as VEC, to shed load. Thus my understanding is that the Capacity Upgrade
15 will result in economic benefits to the State and its residents.

16 **Least-Cost Integrated Resource Plan – 30 V.S.A. 248(b)(6)**

17 **Q20. Is the Capacity Upgrade consistent with the principles of least-cost integrated**
18 **resource planning?**

19 A20. VELCO does not have an integrated resource plan (“IRP”), but the Capacity Upgrade is
20 consistent with IRP principles insofar as it uses existing resources to the maximum extent
21 possible before looking to other power supply sources. In addition, VELCO’s 2024

1 Vermont Long-Range Transmission Plan addresses the unique challenges associated with
2 winter reliability (at page 13) and how these and other risks could result in load shedding
3 (at page 8). The Capacity Upgrade will help address this critical issue by providing a
4 backup supply of power during regional emergencies that could require load shedding in
5 Northern Vermont.

6 **Compliance with Twenty-Year Electric Plan – 30 V.S.A. 248(b)(7)**

7 **Q21. Is the Capacity Upgrade in compliance with the twenty-year electric plan, as set**
8 **forth in the 2022 Comprehensive Energy Plan (“CEP”)?**

9 A21. Yes. The CEP recognizes that a “severe prolonged cold snap’ lasting multiple days,
10 paired inherently with high demand for electricity, could bring about inadequacy in
11 available generation resources such that not all electric load can be served reliably.” CEP
12 at 218. The CEP discusses various potential strategies to maintain reliability during a
13 cold snap. *See* CEP at 218-219. The Capacity Upgrade is being proposed to address the
14 winter reliability concerns outlined in the CEP.

15 The CEP also emphasizes that Vermont should “make efficient use of the transmission
16 system we already have” in order to avoid unnecessary transmission costs, which are the
17 “main driver” of electric bill increases in Vermont. CEP at 64. The Capacity Upgrade
18 aligns with this priority because it utilizes existing infrastructure without the need for any
19 improvements or upgrades. For these reasons, the Capacity Upgrade is in compliance
20 with the twenty-year electrical plan.

1 **Existing or Planned Transmission Facilities – 30 V.S.A. § 248(b)(10)**

2 **Q22. Can the Capacity Upgrade be served economically by existing or planned**
3 **transmission facilities without undue adverse effect on Vermont utilities or**
4 **customers?**

5 A22. Yes. The Capacity Upgrade will be fully supported by the existing Highgate
6 Interconnection Facilities and does not require any additional physical improvements. In
7 addition, the Capacity Upgrade will enhance winter reliability and strengthen system
8 resilience by providing a backup supply of power that can be deployed during a
9 prolonged cold snap, regional energy shortfalls, or other emergency conditions.

10 **2. Conclusion.**

11 **Q23. Do you have any concluding remarks for the Commission regarding this filing?**

12 A23. Yes. VELCO respectfully requests that the Commission approve this petition as soon as
13 practicable so the Capacity Upgrade may be implemented for use during the upcoming
14 winter season—allowing it to support reliable service during periods of winter supply
15 constraint or other emergency operating conditions, as discussed above in Answer 7.

16 **Q24. Does this conclude your testimony at this time?**

17 A24. Yes.

Declaration of Jason Pew

I, Jason Pew, verify that the facts stated in the foregoing Prefiled Testimony and supporting exhibits are true and accurate to the best of my knowledge and belief. I understand that if the above statement is false, I may be subject to sanctions by the Commission pursuant to 30 V.S.A. § 30.

/s/ Jason Pew

Name: Jason Pew

Title: Director of Operations and EMS
VELCO

Date: October 21, 2025