

**STATE OF VERMONT  
PUBLIC UTILITY COMMISSION**

Case No. 23-xx-PET

Petition of Vermont Transco LLC, and Vermont Electric Power Company, Inc. for a certificate of public good, pursuant to 30 V.S.A. § 248(j), authorizing upgrades to VELCO's existing Tafts Corner Substation in Williston, Vermont

**PREFILED TESTIMONY OF DAVE HAAS  
ON BEHALF OF VERMONT ELECTRIC POWER COMPANY, INC.**

*This testimony and associated exhibits have been filed ePUC other than the identified confidential document*

September 29, 2023

Dave Haas's testimony introduces the other witnesses offering testimony in support of the so-called "Tafts Corner Substation 115 kV Breaker Project," provides an overview of the proposed Project's scope, cost and schedule, explains how the Project addresses a subset of the § 248 criteria, and explains why the Section 248(j) procedures should apply to the Project.

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## **EXHIBITS**

<b>Exhibit Petitioner DH-1</b>	<b>Résumé of Dave Haas</b>
<b>Exhibit Petitioner DH-2</b>	<b>USGS Location Map</b>
<b>Exhibit Petitioner DH-3</b>	<b>Photo, K23-40 Breaker Position</b>
<b>Exhibit Petitioner DH-4</b>	<b>Project Cost Estimate Summary</b>
<b>Exhibit Petitioner DH-5</b>	<b>45 Day Waivers</b>
<b>Exhibit Petitioner DH-6</b>	<b>Town and Regional Plan Excerpts</b>
<b>Exhibit Petitioner DH-7</b>	<b>June 21, 2023 VSPC Meeting Minutes</b>
<b>Exhibit Petitioner DH-8</b>	<b>Aesthetic Report</b>

PREFILED TESTIMONY OF DAVE HAAS  
ON BEHALF OF VERMONT ELECTRIC POWER COMPANY, INC.

1   **1.    Introduction**

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

3    A1.    My name is Dave Haas. I am employed by Vermont Electric Power Company, Inc.  
4           (VELCO) as a Project Manager. My business address is 366 Pinnacle Ridge Road,  
5           Rutland, Vermont 05701.

6

7    Q2.    Please describe your education and employment background.

8    A2.    I received an ASEET Degree from Vermont Technical College in 1982, after which  
9           I began working for VELCO. I have been employed by VELCO for over 40 years.  
10           During this time, I have worked in various capacities that include experience in  
11           field maintenance, electrical and power system design, system modeling, short  
12           circuit studies and analysis, power system operation, load-flow and contingency  
13           analysis, and project management. Currently, I am responsible for managing  
14           several VELCO projects. I have specific information regarding my work  
15           experience as detailed in my resume, attached as Exhibit Petitioner DH-1.

16

17   Q3.    Have you previously provided testimony before the Vermont Public Utility  
18           Commission (Commission)?

19   A3.    Yes, I have submitted prefiled testimony in several Commission proceedings,  
20           including Docket 19-4582-PET for the New Haven Operations Facility, Dockets

1 8033 and 8085 concerning transformer replacements in St. Albans, and Docket  
2 7032 in connection with VELCO's Lamoille County Project.

3 **2. Testimony Overview**

4 Q4. What is the purpose of your testimony?

5 A4. My testimony supports the Petition by VELCO for a Certificate of Public Good  
6 (CPG) pursuant to 30 V.S.A. § 248(j) to install a new 115 kV SF6 circuit breaker,  
7 115 kV voltage transformer, and associated equipment all within the existing  
8 substation fence at VELCO's existing substation located at 525 Sycamore Street,  
9 Williston, Vermont (Project). My testimony: (1) introduces the other witnesses  
10 offering testimony in support of the Project; (2) justifies application of the Section  
11 248(j) procedures; (3) provides an overview of the proposed Project and the  
12 proposed schedule for Project completion and timing of needed CPG approvals; (4)  
13 provides a summary cost estimate and the expected cost treatment; and (5) explains  
14 how the proposed Project addresses a subset of the criteria under Section 248.  
15 Please see Exhibit Petitioner DH-2 for the USGS location of the substation.

16

17 Q5. Please identify each of the witnesses other than yourself that will submit testimony,  
18 as well as the scope of their testimony.

19 A5. In support of this Petition, VELCO submits the prefiled testimony and exhibits  
20 sponsored by the following witnesses:

21	<u>Witness</u>	<u>Subject</u>
22	Ed McGann	Discusses the engineering and design details for the
23		substation work and addresses public health and
24		safety

1 Jacob Reed Provides an assessment on the environmental and  
2 historic sites criteria for the Project and VELCO's  
3 waste disposal methods  
4  
5

6 Q6. Why has VELCO filed this Petition under subsection (j) of Section 248?

7 A6. The Project is limited in size and scope, it raises no significant issues with respect  
8 to the substantive criteria of Section 248, and the public interest is satisfied by the  
9 procedures authorized under Section 248(j). VELCO would perform the Section  
10 248 upgrades within previously disturbed lands all within the existing substation  
11 fence. No Project components require tree clearing. Thus, the Project does not raise  
12 a significant issue with respect to the Section 248 criteria given the Project's limited  
13 scope and clear need to improve restoration times during emergencies and simplify  
14 the work for routine maintenance.

15  
16 Q7. Please describe the existing VELCO Taft's Corner substation, and noteworthy  
17 historical events.

18 A7. VELCO constructed the Taft's Corner substation in 2004 to increase the reliability  
19 and load-serving capability of the 34.5 kV Green Mountain Power (GMP) and  
20 Vermont Electric Cooperative (VEC) subtransmission systems in the Williston  
21 area. This upgrade developed the existing site and size of the substation footprint  
22 that included a control building, 115/34.5 kV transformer with one 115 kV breaker,  
23 one 34.5 kV breaker, associated electrical apparatus, protections and control. The  
24 substation was designed for future consideration of area load growth that included  
25 provisions for a 115 kV ring bus serving two additional 115/12.47 kV transformer

1 circuits, 12.47 kV switchgear and associated apparatus. The substation is connected  
2 to VELCO's 115 kV electric transmission system in the Williston area.

3  
4 In 2009 in Docket 7454, VELCO upgraded the substation to serve the local GMP  
5 and VEC 12.47 kV distribution systems that included the installation of a four-  
6 breaker 115 kV ring bus, 115/12.47 kV transformer, two 12.47 kV switchgear five-  
7 breaker distribution busses connected by a tie-breaker, two transformer source  
8 breakers with one installed for emergency service and future upgrades, all with  
9 associated electrical apparatus, protections and control.

10

11 Q8. Please describe the primary deficiencies of the existing Taft's Corner substation and  
12 proposed solutions.

13 A8. This substation currently has an existing 115/12.47 kV (T2) transformer that feeds  
14 six GMP and two VEC local distribution circuits that are radially served. If  
15 VELCO were to experience a failure and loss of the existing 115/12.47 kV T2  
16 transformer, VELCO would need to install either a mobile transformer or a spare  
17 transformer that is presently located at the Taft's Corner substation. For loss of the  
18 T2 source, GMP would perform circuit restorations from other area distribution  
19 sources. GMP, however, is unable to serve the local VEC load. Due to system  
20 topology, the VEC load cannot be served from another VEC distribution source.  
21 GMP could restore power to its area customers within hours. But VEC customers  
22 would need to rely on VELCO's T2 transformer circuit restoration that is estimated  
23 to take approximately 24 hours.

1

2           There is currently a spare 115/13.2 kV, 56 MVA transformer (T3) at the substation  
3           that VELCO can use when the T2 transformer experiences an outage. To restore a  
4           12.47 kV source in the spare T3 position requires VELCO to operate the substation  
5           with the 115 kV ring bus open. With the ring bus open, subsequent single  
6           contingencies cause more than one circuit to open, impacting area reliability. Also,  
7           a significant amount of effort is required to rework (rewire and re-cable) 115 kV  
8           protection, instrumentation, and control circuits on the three-terminal Tafts-Essex-  
9           Lime Kiln line. The emergency rework of the protection, instrumentation and  
10          control circuits requires de-commissioning and re-commissioning of systems. This  
11          poses additional risks to the area transmission system. The same rework is also  
12          required for scheduled maintenance of the in-service T2 transformer. The  
13          consequence is that VEC customers will experience a long duration outage that lasts  
14          until VELCO restores the T2 circuit. The T2 circuit consists of several  
15          components<sup>1</sup>, and if any of those failed, it would shut down the circuit.

16

17          This Project seeks to resolve this operational deficiency that would occur during  
18          VELCO's routine maintenance and emergency situations. VELCO presented GMP  
19          and VEC with options to improve the area reliability. VELCO, GMP, and VEC  
20          agreed on an upgrade option that would: (1) reduce risks by eliminating rework of

<sup>1</sup> The T2 transformer circuit is made up of a series of components. A failure of any one component would cause loss of the entire circuit, e.g. the T2 115/12.47 kV transformer, transformer on-line load tap-changer, B20 switchgear breaker, 12.47 kV underground high voltage cables, cable terminators, voltage and current instrument transformers, protective relays, and associated lighting arrestors and insulators.

1 115 kV circuits; (2) support more simplified maintenance; (3) improve system  
2 reliability and load restoration times for emergencies and maintenance; and (4) and  
3 offer reasonable cost allocations. The restoration time for loss of the T2 transformer  
4 would be reduced to less than 2 hours from approximately 24 hours (the time  
5 required for performing local switching at the substation).

6  
7 The agreed-to solution requires VELCO to install as the primary Project component  
8 a new 115 kV SF6 circuit breaker that VELCO would locate in the future K23-40  
9 position. VELCO would install the new 115 kV circuit breaker on the existing  
10 breaker foundations with the use of a breaker stand adapter, remove an existing  
11 aluminum rigid bus spanning between the 23-8 and 40-7 switches, install a  
12 compliment of insulators, connect the breaker with aluminum conductors, and  
13 install underground control and instrumentation cables. The future breaker position  
14 presently includes all required conduits for the control cables. Please see Exhibit  
15 Petitioner DH-3 for a photo of the K23-40 breaker position.

16  
17 Installing this new breaker will allow VELCO to use the existing T3 spare  
18 transformer or a mobile transformer more efficiently when the T2 experiences an  
19 outage or is taken out of service for maintenance. The T3 transformer is already at  
20 the substation and currently has an oil containment above ground catchment  
21 membrane to contain oil spills. VELCO would only use the T3 transformer when  
22 the T2 transformer experiences outages or for planned maintenance. VELCO uses

1 the T3 transformer for potential failures of other area 115/12.47 kV and 115/13.8  
2 kV transformers in the Chittenden County area.

3  
4 VELCO will also need to install a new T3 115 kV voltage transformer with a single  
5 foundation and steel mounting stand. VELCO will use the voltage transformer to  
6 provide bus voltage indications required for protective relays and remote  
7 monitoring. This work will require VELCO to connect the voltage transformer with  
8 an aluminum conductor, and install underground instrumentation cables. A small  
9 amount of below grade excavation is required for the voltage transformer  
10 foundation and associated conduit installation work.

11  
12 VELCO would install protection relays and controls in the existing relay/control  
13 panels for the 115/13.2 kV T3 transformer and 115 kV K23-40 breaker position,  
14 including all required wiring and installation of all hardware, fiber optics, and  
15 materials.

16  
17 Overall, the proposed Project takes advantage of using the VELCO spare T3  
18 transformer that is presently at the substation and as such, allows for much  
19 improved restoration times of local area utility customers for failures of existing  
20 equipment at the substation, and allows for simplified maintenance of existing  
21 systems that reduces overall risk.

22

1 Mr. McGann's testimony and exhibits include further engineering and design  
2 details of the proposed substation upgrades.

3

4 Q9. In summary, please describe the Project's major substation components.

5 A9. To address the noted deficiencies at the Taft's Corner substation, VELCO proposes  
6 to install/perform the following major components:

7 • Install a new 115 kV SF6 circuit breaker on existing breaker foundations, make  
8 connections to existing 115 kV ring bus, and use existing conduits for control  
9 cables.

10 • Install a new T3 115 kV voltage transformer with a single foundation and steel  
11 mounting stand with associated conduits and cables.

12 • Install protection relays and controls in existing relay/control panels for the  
13 115/13.2 kV T3 transformer and 115 kV K23-40 breaker position, including all  
14 required wiring and installation of hardware, fiber optics, and materials.

15

16 Q10. Does the Project require VELCO to remove any trees?

17 A10. No.

18

19 Q11. Will the Project require any blasting?

20 A11. No.

21

22 Q12. Will the Project require the installation of any permanent sound producing  
23 equipment?

1 A12. No.

2

3 Q13. Please describe the approach for developing the Project's cost estimate.

4 A13. The first step was to identify the resources required to plan, design, and construct  
5 the Project. VELCO developed the cost estimate utilizing seven categories to  
6 establish the total cost for each Project element. The seven resource categories are  
7 as follows:

- 8 • Material
- 9 • Labor
- 10 • Equipment
- 11 • Indirects
- 12 • Escalation
- 13 • Capital Interest
- 14 • Contingency

15

16 Q14. Please summarize the process used to develop the direct and indirect costs.

17 A14. VELCO developed the Direct Costs using cost data from projects VELCO recently  
18 completed or which are in progress. Specifically, VELCO used cost data associated  
19 with recent VELCO substation and line projects to develop the material, labor and  
20 equipment costs. VELCO used vendor cost data for portions of the Project scope  
21 for which VELCO did not have recent actual cost data from its prior projects.

22

23 VELCO estimated labor and equipment costs using preliminary detailed designs.  
24 The detailed line items for each Project element were estimated into sub-categories  
25 following the Federal Energy Regulatory Commission ("FERC") system of  
26 accounts. Developing the cost estimates by FERC accounts enhances VELCO's

1 ability to track costs in a manner consistent with the reporting format of actual costs  
2 as required by FERC. Also, escalation costs can be more accurately calculated by  
3 applying the Handy-Whitman cost index to the estimated costs by FERC account.

4

5 The Project team also developed the estimated costs for Indirects, Escalation,  
6 Capital Interest and Contingency.

7

8 VELCO estimated the Indirect Costs based on the resources required to support the  
9 Project completion by resource category. Resource categories included in the  
10 Indirect estimated costs include: Engineering and Design; Operations; Planning;  
11 Communications; Environmental Engineering; Archeological Studies; Field  
12 Surveys; Impact Mitigation; Aesthetic Impact; Legal Expenses; Regulatory  
13 Permitting and Filings; Administrative Overhead; Mobilization and  
14 Demobilization; Project Management; Construction Supervision; and Project  
15 Administration.

16

17 The Indirect estimated Project costs support services are based on the number of  
18 people/hours (Level of Effort or LOE) required to support the particular function  
19 as well as outsourced consulting services for each resource category (e.g.  
20 archaeology studies, engineering, and surveying, etc.).

21

1 VELCO Project Controls developed escalation costs by using an anticipated 2022-  
2 2024 spending plan and projected Handy-Whitman cost index and consumer price  
3 index (CPI).

4

5 VELCO applied Capital Interest (interest cost during construction), and also  
6 followed the Project spending plan as applied to the escalation cost calculation. The  
7 Capital Interest rate is typically based on the company's credit rating and is subject  
8 to change based on the financial market conditions.

9

10 Finally, the Project cost estimate also accounts for a contingency of twenty percent  
11 (20%) due to the preliminary detailed designs and the uncertainty and risk  
12 associated with the Project level of definition.

13

14 Q15. What is the total cost estimate for the VELCO Components based on the various  
15 cost elements and resource categories described?

16 A15. The total Project cost is estimated at \$753,278. The total cost estimate is comprised  
17 of \$210,148 of Direct Costs (encompassing Material, Labor and Equipment),  
18 \$275,643 of Indirect Costs, \$49,475 in Escalation, \$92,465 in Capital Interest, and  
19 \$125,546 in Contingency. Please refer to Exhibit Petitioner DH-4 for a cost  
20 summary by resource category and Project elements.

21

22 Q16. What is the design basis for the substation's Direct cost estimate?

1 A16. The Direct cost estimate is based on the General Arrangement Plans and the One-  
2 Line Diagram as presented in Mr. McGann's testimony and exhibits.

3

4 Q17. What risk elements did VELCO consider when developing the cost estimate and  
5 how were the risks addressed in the cost estimate?

6 A17. Risk elements considered are the Project duration, level of certainty regarding  
7 ground condition for below grade work, required aesthetic and environmental  
8 mitigation measures, volatility regarding escalation rates, temporary configurations  
9 necessary to support construction, global supply chain issues and potential resource  
10 constraints at the anticipated time of construction. Per standard project  
11 management practices widely recognized by organizations such as the Project  
12 Management Institute, VELCO applied contingency to the estimate to account for  
13 these risks.

14

15 As described in my testimony, VELCO applied a contingency of 20% to the total  
16 estimated cost based on the current level of Project definition.

17

18 Q18. Are any portions of the Project upgrades expected to be eligible for Pool  
19 Transmission Facilities (PTF) regionalized cost recovery?

20 A18. Yes. It is estimated that \$731,375 of the total Project costs will be eligible for PTF  
21 recovery. The existing substation contains PTF, non-PTF and general plant  
22 facilities. The total Project costs are allocated among these classifications on a  
23 percentage basis. Please see Exhibit Petitioner DH-4 for the breakdown.

1 Q19. What is the Project schedule?

2 A19. Currently, the estimated construction schedule is from June 2024 with a targeted  
3 completion date of September 2024. This assumes receipt of a CPG by the end of  
4 May 2024. A failure to achieve this schedule will likely have adverse impacts on  
5 Project execution and overall Project cost.

6

7 Construction would take place between the hours of 7:00 A.M. and 7:00 P.M.  
8 Monday through Friday, and between 8:00 A.M. and 5:00 P.M. on Saturdays. No  
9 construction will take place on Sundays, or state or federal holidays, although  
10 VELCO seeks to conduct activities on Bennington Battle Day given the short  
11 summer construction season, and the holiday is not widely granted as a paid day  
12 off for many of the workers likely to be working on the Project. VELCO requests,  
13 however, that these restrictions do not apply to construction activities that VELCO  
14 must perform during any required outages that may be needed to maintain system  
15 reliability.

16

17 **3. Criteria on Public Outreach [Docket No. 7081]**

18 Q20. Has the Project development conformed to the transmission planning requirements  
19 approved in the Memorandum of Understanding (MOU) of Docket No. 7081?

20 A20. Yes.

21

22 Q21. Please describe VELCO's public outreach efforts related to this Project.

1 A21. VELCO designed the public outreach efforts to meet the requirements of the MOU  
2 from Docket No. 7081. VELCO specifically reached out to the local community  
3 in Williston, and due to the limited project scope, VELCO requested waivers from  
4 each entity. VELCO obtained waivers of the requirement to issue 45-day advance  
5 notices from the Williston Select Board, the Williston Planning Commission, and  
6 the Chittenden County Regional Planning Commission. There were no comments  
7 or concerns raised in these meetings. Please see Exhibit Petitioner DH-5 (45-day  
8 Waivers).

9  
10 **4. Orderly Development [30 V.S.A. § 248(b)(1)]**

11 Q22. Will the Project unduly interfere with the orderly development of the region?

12 A22. No. The Project will have a favorable impact on the orderly development of the  
13 region in that it will improve the reliability of the region's existing electrical supply  
14 while not adversely impacting the environment or aesthetics. The proposed Project  
15 is consistent with the 2016-2024 Williston Town Plan with a 2020 Energy Plan  
16 (Town Plan). The Town Plan contains no language addressing the substation  
17 property. The Town Plan generally addresses future utilities siting and states that  
18 it will urge the Commission to "ensure that new regional transmission lines,  
19 substations, and similar support facilities are located within existing utility  
20 corridors, minimizing impacts to natural, scenic, and historic resources." It  
21 similarly states under section 11.2.2 that "Utility line and pole placements, and  
22 substation siting or expansion should minimize disturbance to wetlands, streams,  
23 wildlife habitat, the viewshed, and other natural and historic resources." Because

1 VELCO will perform all Project work within the existing substation fence, the  
2 Project complies with the Town Plan. Exhibit Petitioner DH-6 (pages 76-77).

3  
4 VELCO also examined the Chittenden County Regional Planning Commission,  
5 adopted June 20, 2018 (RPC Plan). The RPC Plan does not provide land  
6 conservation measures regarding the Project parcel where VELCO seeks to install  
7 the upgrades. The RPC Plan identifies a goal to “support in-place upgrades of  
8 existing facilities, including existing renewable energy generation, storage,  
9 transmission lines, distribution lines and substations as needed to reliably serve  
10 municipalities and the region.” Exhibit Petitioner DH-6 (Main Piece, page 20).  
11 Because the RPC Plan does not contain any applicable land conservation measures,  
12 and the Project proposes to use an existing substation to better serve the region, the  
13 Project is consistent with the RPC Plan.

14

15 **5. Need for Present and Future Demand for Service [30 V.S.A. § 248(b)(2)]**

16 Q23. Is the Project required to meet the need for present and future demand for service  
17 which could not otherwise be provided in a more cost-effective manner through  
18 energy conservation programs and measures and energy efficiency and load  
19 management?

20 A23. Yes. The operational deficiency at the VELCO Taft's Corner substation as  
21 discussed above is the main driver of the need for the proposed Project. Energy  
22 efficiency and load management actions could not resolve these problems.

1 VELCO presented the proposed Project to the Vermont System Planning  
2 Committee (VSPC) Geotargeting Subcommittee. The Geotargeting Subcommittee  
3 concluded that the Project screened out of the VSPC's test for Non-Transmission  
4 Alternative (NTA) analysis. Thus, VELCO did not perform an NTA analysis.  
5 Please see Exhibit Petitioner DH-7 for the June 21, 2023, VSPC Meeting Minutes.  
6 VELCO presented the Project and NTA screening form at the meeting, which does  
7 not require specific project design details and cost information.

8

9 Q24. Could the same benefits be achieved by transmission alternatives?

10 A24. No. Because the need for the Project is based on an operational deficiency of the  
11 existing substation, VELCO did not perform a Transmission Alternatives (TA)  
12 analysis.

13

14 Q25. Has VELCO considered and assessed whether the proposed Project represents the  
15 least-cost alternative to resolving the deficiencies discussed above?

16 A25. Yes, VELCO's analysis demonstrated that VELCO needs to address the  
17 operational-related concerns at the existing substation. Furthermore, VELCO  
18 followed the MOU with the Department of Public Service (DPS) under Docket No.  
19 8385, which included the preliminary review of project alternatives and estimated  
20 costs with DPS staff.

21

22 **6. System Stability and Reliability [30 V.S.A. § 248(b)(3)]**

23 Q26. What impact will this upgrade have on system stability and reliability?

1 A26. The Project will have no adverse impact on the stability and reliability of  
2 VELCO's transmission system. In fact, the Project will improve system safety  
3 and reliability.

4

5 **7. Economic Benefit to the State [30 V.S.A. § 248(b)(4)]**

6 Q27. Will the Project result in an economic benefit to the State?

7 A27. Yes. The Project will create economic and safety benefits to the citizens of  
8 Vermont. The Project will increase property tax revenues based on the capital  
9 investment required for the upgrades. Additionally, there will be some local  
10 economic benefits associated with engaging local businesses and contractors during  
11 the Project's construction phase.

12

13 **8. Public Health and Safety [30 V.S.A. § 248(b)(5)]**

14 Q28. Will the Project have any adverse effects on the health, safety, or welfare of the  
15 public or adjoining landowners?

16 A28. No. VELCO will design and construct the Project in accordance with National  
17 Electric Safety Code requirements. The Company will adhere to prudent utility  
18 construction practices throughout the construction phase, and the Project will not  
19 endanger the public or adjoining landowners. VELCO will operate and maintain  
20 the substation equipment installed as part of this Project in the same safe manner  
21 that the Company operates and maintains all of its facilities.

22

23

1   **9.    Transportation Systems/Traffic [10 V.S.A. § 6086(a)(5)]**

2   Q29. Please describe the Project's potential impacts with respect to use of public roads.

3   A29. The Project poses no long-term traffic impacts in Williston. VELCO does not  
4       anticipate any traffic impacts due to deliveries of equipment and material to the  
5       substation site during the construction period (expected to be from June 2024 to  
6       September 2024). Such deliveries will use existing roads with vehicles that are  
7       commonly used on public roads. If needed, during delivery of any large equipment,  
8       VELCO will employ the services of traffic control personnel to manage traffic flow.  
9       VELCO will obtain all required highway permits associated with the work and  
10      deliveries.

11

12   Q30. Will the Project affect railway transportation?

13   A30. No. VELCO does not anticipate that the Project will impact railway transportation.

14

15   Q31. Where will VELCO store equipment during construction?

16   A31. VELCO will use the existing substation parcel to store any material needed during  
17      construction.

18

19   **10.   Educational & Municipal Service [10 V.S.A. § 6086(a)(6)&(7)]**

20   Q32. What impact will the Project have on educational and municipal services?

21   A32. The Project will not have any impact on educational or municipal services. With  
22      respect to educational services, the Project will not add any new students to the  
23      affected municipality. Thus, the Project will not place an unreasonable burden on

1 the ability of a municipality to provide educational services because the Project will  
2 not require or affect educational services.

3  
4 With respect to municipal services, the Project does not require any fire or police  
5 services beyond those typically required of other businesses, and what is currently  
6 required for the Taft's Corner substation.

7

8 **11. Aesthetics [ 30 V.S.A. § 248(b)(5), 10 V.S.A. § 6086(a)(8) & PUC Rule 5.800]**

9 Q33. Will the Project adversely impact aesthetics?

10

11 Q33. No. VELCO retained T.J. Boyle & Associates (Boyle) to prepare an aesthetic  
12 report for the Project, which is attached as Exhibit Petitioner DH-8. The Boyle  
13 report concludes that the Project will not have an adverse effect on the scenic or  
14 natural beauty or aesthetics of the area. The Boyle report explains that:

15 (1) The Project will have extremely limited visibility from the surrounding  
16 area. Views are substantially screened by surrounding evergreen vegetation and  
17 landform.

18 (2) The Project's colors and materials are considered compatible with the  
19 existing conditions at and within the vicinity of the Project site. Any visibility of  
20 the proposed improvements will be seen within the context of the existing  
21 substation and other nearby electrical transmission infrastructure.

22 (3) The Project upgrades will be indiscernible from existing equipment within  
23 the substation and will not impact the visual character of the surrounding area.

24

1 For these reasons and the additional details in the Boyle report, the second part of  
2 the Quechee Analysis was not administered, the Project will not have an undue  
3 adverse aesthetic impact, and the Project does not require aesthetic mitigation  
4 measures under PUC Rule 5.800. Exhibit Petitioner DH-8.

5  
6 **12. Development Affecting Public Investments [10 V.S.A. § 6086(a)(9)(K)]**

7 Q34. What impact will the Project have on public investment in a public resource?

8 A34. The Project will not unnecessarily or unreasonably endanger any public or quasi-  
9 public investment in any facility, service, or lands, or materially jeopardize or  
10 interfere with the function, efficiency, or safety of, or the public's use or enjoyment  
11 of or access to any facility, service, or lands. Please refer to my testimony above  
12 under the transportation criteria that explains that the Project will have limited  
13 impacts on nearby roads. No other public investments will be affected by the  
14 Project.

15

16 **13. Compliance with Integrated Resource Plan [30 V.S.A. § 248(b)(6)]**

17 Q35. Is the Project consistent with VELCO's least cost Integrated Resource Plan?

18 A35. VELCO does not have an integrated resource plan. As a transmission-only  
19 company, VELCO periodically produces transmission studies. VELCO issued a  
20 2021 Vermont Long-Range Transmission Plan but it does not identify this specific  
21 Tafts Corner Project. The projects covered in this plan include transmission system  
22 reinforcements that address transmission system reliability deficiencies; however,

1 at the time of the plan development, the Tafts Corner substation’s operability  
2 deficiency was not fully vetted with GMP and VEC.

3  
4 The Project is nonetheless consistent with the principles of least-cost planning. The  
5 Project resolves an operability deficiency and will improve recovery times of  
6 customers and reduce risks with much simplified field work. The proposed Project  
7 thus meets the public’s need for energy services by improving system reliability  
8 through the upgrade of the substation with known performance issues, while  
9 minimizing environmental impacts by installing all new components within an  
10 existing substation.

11 **14. Compliance with Vermont Electric Energy Plan [30 V.S.A. § 248(b)(7)]**

12 Q36. Is the Project consistent with the 2022 Comprehensive Energy Plan?

13 A36. Yes. Vermont’s Comprehensive Energy Plan identifies objectives that utilities  
14 must meet in serving the public interest, such as serving its customers at the lowest  
15 life-cycle costs, including environmental and economic costs, and reducing  
16 greenhouse gas emissions. The CEP “balances the principles articulated in 30  
17 V.S.A. § 202a of energy adequacy, reliability, security, and affordability, which are  
18 all essential for a vibrant, resilient, and robust economy and for the health and well-  
19 being of all Vermonters.” CEP executive summary at 1. The CEP also  
20 acknowledges that the “grid needs to continue to perform — to reliably deliver the  
21 required energy to customers, every hour of the year, to and from resources that are  
22 exponentially more distributed, diverse, and variable, under increasing pressure  
23 from severe weather events and cyberattacks, while weaning off fossil resources

1 and staying affordable.” CEP at ES-24. The CEP states that Vermont’s  
2 overarching goal for the grid should be “A secure and affordable grid that can  
3 efficiently integrate, use, and optimize high penetrations of distributed energy  
4 resources to enhance resilience and reduce greenhouse gas emissions.” CEP at page  
5 60. The Project strikes the proper balance between these objectives. Specifically,  
6 VELCO has proposed a Project that restores and maintains system reliability and  
7 safety. Moreover, VELCO’s proposal to perform the Taft's Corner Project in an  
8 area that already hosts other electric infrastructure limits the environmental impact.  
9 VELCO’s analysis above demonstrates that the Project is the least-cost option.  
10 VELCO has asked the Department for a determination under 30 V.S.A. § 202(f)  
11 that the Project is consistent with the 20-Year Plan.

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**15. Impact on Vermont Utilities and Customers [30 V.S.A. §248(b)(10)]**

Q37. Can existing or planned transmission facilities serve the Project without creating an undue adverse effect on Vermont utilities, customers, or existing transmission facilities?

A37. Yes. Existing transmission facilities can serve the Project without creating an undue adverse effect on Vermont utilities and customers. The proposed Project is designed to enhance the existing utility system and to improve service to customers. VELCO has, and will continue to coordinate the work with VEC and GMP to minimize impacts during construction and ensure worker safety.

1   **16.   Conclusion**

2   Q38.   Does this conclude your testimony at this time?

3   A38.   Yes, it does.