

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Case No.

Petition of Vermont Transco LLC, and Vermont Electric Power Company, Inc. (collectively, “VELCO”), for a Certificate of Public Good pursuant to 30 V.S.A. § 248 authorizing upgrades to VELCO’s existing Middlebury Substation, located in Middlebury, Vermont

**PREFILED TESTIMONY OF JACOB REED
ON BEHALF OF VERMONT ELECTRIC POWER COMPANY, INC.**

This testimony and associated exhibits have been filed ePUC

January 17, 2023

Jacob Reed’s testimony presents the report entitled: “Natural Resource Assessment Report Middlebury Project” prepared by VHB, which addresses VELCO’s proposal to upgrade VELCO’s existing substation located at 522 Quarry Road, Middlebury (collectively referred to as the “Project”). Mr. Reed also addresses the specific environmental and historic sites criteria under 30 V.S.A. § 248(b)(5).

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EXHIBITS

Exhibit Petitioner JR-1	Résumé of Jacob T. Reed
Exhibit Petitioner JR-2	Middlebury Substation Historic Sites Memo
Exhibit Petitioner JR-3	Natural Resource Assessment Report – Middlebury Substation Project
Exhibit Petitioner JR-4	Non-Native Invasive Species Monitoring and Control Plan
Exhibit Petitioner JR-5	VELCO’s Environmental Guidance Manual (this document has been provided ePUC only)
Exhibit Petitioner JR-6	SF6 Policy

PREFILED TESTIMONY OF JACOB REED
ON BEHALF OF VERMONT ELECTRIC POWER COMPANY, INC.

1 **1. Introduction**

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

4 A1. My name is Jacob Reed. I am the Vermont Electric Power Company, Inc. (“VELCO”)
5 Senior Environmental Specialist leading environmental permitting for the Middlebury
6 Project. My business address is Vermont Electric Power Company, Inc., 366 Pinnacle
7 Ridge Road, Rutland, VT 05701.

8
9 Q2. Please describe your education and employment background.

10 A2. I received a Bachelor of Science degree in Architectural Engineering Technology from
11 Vermont Technical College, and a Master’s of Science in Environmental Studies and
12 Sustainability from Unity College. I started working for VELCO as an intern in 2007 and
13 have been employed full-time by VELCO since November 2012. I have worked on a
14 variety of environmental projects at VELCO. In my current role as Environmental
15 Permitting Lead for the Middlebury Project, I am responsible for scheduling and managing
16 any necessary natural resource and above- and below-ground historic site assessments;
17 agency coordination and correspondence, environmental permitting, and construction and
18 restoration oversight to ensure compliance with the Project’s environmental permits and
19 commitments. Enclosed as Exhibit Petitioner JR-1 is my resume, which sets forth my
20 educational and professional experience in more detail.

21

22

1 Q3. Have you previously provided testimony before the Vermont Public Utility Commission
2 (“PUC”)?

3 A3. Yes. I offered testimony at the PUC in support of VELCO’s Florence Substation Project
4 in Case 21-3732-PET, VELCO’s New Haven Operations Facility in Case 19-4582-PET,
5 and VELCO’s East Avenue and Queen City Substation Improvement Project in Case 18-
6 5029-PET. I have also led several permitting efforts for VELCO and supported other
7 VELCO staff in the development of their prefiled testimony and exhibits for other projects
8 brought before the PUC, including several associated with the Statewide Radio Project.
9 And I have prepared several Act 250 land use permit applications for VELCO that includes
10 addressing the criteria contained in 10 V.S.A. Section 6086.

11

12 Q4. Do you hold any professional licenses or certifications?

13 A4. Yes. I am a Certified Professional in Erosion and Sediment Control (CPESC #7669). I also
14 hold OSHA 40-hour certification for Hazardous Waste Operations and Emergency
15 Response (HAZWOPER) (29 CFR 1910.120).

16

17 **2. Testimony Overview**

18

19 Q5. What is the purpose of your testimony?

20 A5. My testimony summarizes how the Project will comply with the environmental and historic
21 sites criteria applicable to electric transmission projects under 30 V.S.A. § 248. As such,
22 my testimony provides an assessment of potential impacts upon above and below ground
23 historic sites as well as presenting the report entitled: “Natural Resource Assessment
24 Report - Middlebury Substation Project,” prepared by VHB, which addresses VELCO’s

1 proposal to upgrade its existing substation located at 522 Quarry Road, Middlebury and
2 the proposed temporary substation (the “Project”). VELCO will use areas inside the
3 Project assessment area for staging areas. Specifically, my testimony addresses the
4 following statutory criteria: outstanding resource waters (10 V.S.A. § 1424a(d)), air
5 pollution (10 V.S.A. § 6086(a)(1)), headwaters, (10 V.S.A. § 6086(a)(1)(A)), waste
6 disposal (10 V.S.A. § 6086(a)(1)(B)), water conservation (10 V.S.A. § 6086(a)(1)(C)),
7 floodways (10 V.S.A. § 6086(a)(1)(D)), shorelines (10 V.S.A. § 6086 (a)(1)(F)), streams
8 (10 V.S.A. § 6086(a)(1)(E)), wetlands (10 V.S.A. § 6086(a)(1)(G)), water supply (10
9 V.S.A. § 6086(a)(2) and (3)), soil erosion (10 V.S.A. § 6086 (a)(4)), and threatened and
10 endangered species, rare and irreplaceable natural areas and necessary wildlife habitat (10
11 V.S.A. § 6086(a)(8)). My testimony also addresses additional criteria under 30 V.S.A. §
12 248(b)(5): historic sites, greenhouse gas impacts, use of natural resources, and primary
13 agricultural soils.

14 **3. Historic Sites [30 V.S.A. § 248(b)(5)]**

15
16 Q6. Will this Project have an undue adverse effect on historic sites?

17 A6. No. A “historic site” is a site that has been officially included in the National Register of
18 Historic Places and/or the state register of historic places. One historic site was identified
19 as being mapped within the Project area, VT-AD-0463. Accordingly, VELCO retained
20 WSP to perform a gap analysis¹ to determine the proposed Project area’s sensitivity for

¹ VELCO refers to this analysis as a “gap analysis”. The gap analysis required reviewing the multiple prior archaeological surveys that exist for the adjoining properties, mapping the previously identified archaeological sites, and determining whether gaps existed in the survey work. The gap analysis thus informed the scope of archaeological review for this Project.

1 archaeological and historic resources relative to prior archaeological and historic site
2 assessments performed by others on the adjoining properties. Additionally, WSP conducted
3 two Archaeological Resource Assessments (ARA), a Phase 1B survey and Historic
4 Architectural Reconnaissance survey. The assessments collectively covered the 11.16-acre
5 Project area, and the Phase 1B survey investigated all archaeologically sensitive areas within
6 the Project area. Although a portion of Site VT-AD-0463 located in the Area of Potential
7 Effect (APE) was investigated with close-interval shovel tests, no artifacts were discovered
8 and thus the site was not relocated within the Project area. In WSP's opinion, future
9 upgrades and ground-disturbing activities in the Project area will not adversely affect this
10 portion of Site VT-AD-0463, and the Project will have no undue adverse impact on below
11 ground historic sites

12
13 As part of the Historic Architectural Reconnaissance Survey, WSP identified five properties
14 in the architectural APE, of which four had been previously surveyed and listed in the State
15 Register of Historic Places (SRHP) collectively as "Marble Works (Former Addison County
16 Marble Quarry)." The survey also identified one new historic resource, Quarry Road Farms.
17 WSP determined that of the five properties, three properties previously listed on the SRHP
18 are no longer eligible because of compromised integrity. WSP determined that the last
19 property, the Mill, was not visible from the public roadway, and did not make a
20 recommendation on its historic integrity. WSP concluded the newly identified resource,
21 Quarry Road Farms, did not meet the eligibility criteria for listing on SRHP. Therefore, the
22 Project will not have an undue, adverse effect on historic sites. Exhibit Petitioner JR-2.

1 **4. Natural Environment [30 V.S.A. § 248(b)(5)]**

2
3 Q7. Will the proposed Project have an undue adverse effect on the applicable Section 248
4 environmental criteria?

5 A7. No. VELCO retained VHB to perform detailed natural resource assessments for the
6 proposed Project. The proposed Project's footprint, the area of potential impact (referred
7 to as "Project Area" or "Project footprint"), is located entirely within a greater 11-acre area
8 that is referred to as the "Project Assessment Area" or "PAA". The Project's footprint is
9 based on the current site design layout and constitutes a much smaller land area of
10 approximately 4.34 total acres. The Natural Resource Assessment Report details the
11 findings for the entire, larger 11-acre PAA, and this area includes the proposed temporary
12 substation facility.

13
14 VELCO takes an iterative design approach through its Substation Condition Assessment
15 Project whereby collecting the relative natural and cultural resource information prior to
16 finalizing the site-specific substation upgrades and associated facility layout. This allows
17 for due consideration of natural resource area impact avoidance and minimization during
18 the evaluation of substation design iterations as well as thoughtful siting of construction
19 support areas, temporary facilities, and tie lines, where needed.

20
21 Accordingly, VHB's natural resource assessment effort also reviewed the PAA for
22 potential tie line work areas and access, as well as for potential staging areas that would be
23 used to support Project construction. See Exhibit Petitioner JR-3 (Natural Resource
24 Assessment Report Middlebury Project). The majority of the proposed substation upgrade

1 work will occur within areas of previous disturbance and/or within the substation fence
2 atop the existing gravel substation yard material; however, VELCO will need to realign the
3 existing access road and expand a portion of the fence on the east and north side to
4 accommodate the control building. The proposed temporary substation location would
5 occur on a primarily open field. VELCO has considered the surrounding natural resources,
6 including but not limited to wetlands and floodplains, in the siting and design of the
7 proposed substation improvements, and limited the vegetation clearing at the site to the
8 greatest extent possible. The Project requires limited vegetation clearing to accommodate
9 the expansion of the existing farm road to facilitate access to the temporary substation, the
10 expanded area for the new control building, and to install the outlet of the rerouted stream.
11 These locations are shown in the vegetation clearing plans within Exhibit Petitioner DP-3.
12 The proposed GMP pole relocations are within the existing maintained corridors and, as
13 such, do not involve any corridor expansion; however, the pole relocations may require
14 limited vegetation (shrub and sapling) removal as well as limited earth disturbance to
15 establish safe work pads and sufficient equipment access.

16 VELCO will follow its Non-native and Invasive Species (NNIS) Monitoring and Control
17 Plan, which is included as Exhibit Petitioner JR-4. In addition, VELCO will perform all
18 Project work in accordance with the VELCO Environmental Guidance Manual (VEGM)
19 (Exhibit Petitioner JR-5). As such, the Project will not result in any undue, adverse effects
20 on the natural environment.

21

22

1 **5. Outstanding Resource Waters [10 V.S.A. § 1424a(d) & 30 V.S.A. § 248(b)(8)]**

2
3 Q8. Will the Project result in an undue adverse effect on any Outstanding Resource Waters?

4 A8. No. There are no Outstanding Resource Waters within or in the vicinity of the Project
5 Area. Therefore, the proposed Project will have no undue, adverse effect on Outstanding
6 Resource Waters. Exhibit Petitioner JR-3, at 3.

7
8 **6. Water and Air Pollution [10 V.S.A. § 6086(a)(1)]**

9
10 Q9. Will the Project result in an undue adverse effect on air quality?

11 A9. No. Work during the Project's construction phase will result in minor air emissions. There
12 will be vehicle emissions at the sites from the use of diesel and gasoline powered vehicles
13 and equipment. There may also be brief releases of dust generated during equipment and
14 material transport, earthmoving, and general construction activities; however, VELCO will
15 manage dust resulting from construction activities in accordance with the Vermont
16 Standards and Specification for Erosion Prevention and Sediment Control (ESPC) and the
17 VEGM. Furthermore, Project operation, upon completion of the construction phase, will
18 not produce any regulated air emissions. Therefore, the Project will not have an undue,
19 adverse effect on air quality. Exhibit Petitioner JR-3, at 3-4.

20
21
22 Q10. Will the Project result in undue adverse water quality conditions?

23 A10. No. The proposed Project activities will involve more than one acre of earth disturbance;
24 therefore, the Project will require and VELCO will obtain a Vermont Department of
25 Environmental Conservation (VT DEC) Construction Stormwater Discharge Permit.
26 VELCO will perform all earth disturbing activities in accordance with the Construction

1 Stormwater Discharge Permit, the Vermont Standards and Specifications for ESPC, and
2 the VEGM. The Middlebury substation is included in VELCO's *Spill Prevention, Control,*
3 *and Countermeasure (SPCC) Plan*, which addresses the operational oil-filled equipment
4 at the substation to prevent a discharge of oil into navigable waters. VELCO will adhere to
5 its SPCC Plan, which includes site-specific drainage pathways and detailed information on
6 spill response measures to ensure protection of waters adjacent to the substation in the
7 event of a release of oil or hazardous material to the environment. Implementation and
8 adherence to the EPSC Plan, VEGM, SPCC Plan, and environmental compliance oversight
9 inspections will ensure the protection of water quality during Project construction
10 activities.

11
12 If a release of a hazardous material were to occur during the Project's construction phase,
13 VELCO would take appropriate steps to contain it; report the release to the DEC (as
14 necessary); remove the contaminated material from the site for proper disposal; and restore
15 the area in accordance with the VEGM (Exhibit Petitioner JR-5) and applicable State and
16 Federal Regulations. Obtaining and complying with the Construction Stormwater
17 Discharge Permit, the VEGM, and applicable regulations will maintain existing water
18 quality at the Project site. As such, there will be no undue adverse effect to water quality.
19 Exhibit Petitioner JR-5.

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1 **7. Headwaters [10 V.S.A. § 6086(a)(1)(A)]**

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Q11. Will the Project result in undue adverse effects to headwaters?

A11. No. For the headwaters criteria to be met, the Project must demonstrate compliance with any applicable health and environmental regulations regarding the reduction of the quality of the ground or surface waters flowing through or upon lands which are not devoted to intensive development. These areas are defined as: 1) headwaters or watersheds characterized by steep slopes and shallow soils; 2) drainage areas of 20 square miles or less; 3) above 1,500 feet elevation; 4) watersheds of public water supplies designated by the Vermont ANR; or 5) areas supplying significant amounts of recharge waters to aquifers. VHB analyzed available information and conducted field surveys to determine if the Project will be located on any lands that meet the criteria of 10 V.S.A. § 6086(a)(1)(A). Exhibit Petitioner JR-3, at page 4.

VHB found that there are no headwater streams located within the PAA and there are no seep wetlands on steep slopes that could drain into headwater streams. VHB also concluded that the PAA is situated below 1,500 feet, is not characterized by steep slopes and shallow soils, and is located within the watershed of New Haven River with an area of greater than 45 square miles. Additionally, VHB reviewed the Agency of Natural Resources Atlas and confirmed that there are no public water supplies or associated source protection areas (SPA) within the PAA. Therefore, the Project is not within a headwaters area and will not create an undue adverse effect on the headwater criterion.

1 **8. Waste Disposal [10 V.S.A. § 6086(a)(1)(B)]**

2

3 Q12. Please discuss VELCO's plans regarding waste disposal.

4 A12. The Project will involve limited waste disposal, with the majority associated with the
5 construction phase. VELCO will handle and dispose of the decommissioned substation
6 materials, construction debris, and waste generated from this Project in compliance with
7 State of Vermont Solid Waste Management Rules. Metal equipment such as structural
8 steel, chain link fence, disconnect switches, and the control building will be recycled as
9 scrap metal. VELCO will extract any SF6 gas and containerize it into compressed gas
10 cylinders for inventory quantification and recycling purposes. VELCO will take the wire
11 and cables (copper and aluminum) and metal enclosures to a scrap metal facility for
12 recycling. VELCO will properly dispose of any replaced or decommissioned relays
13 according to their material makeup in accordance with the applicable waste disposal rules
14 and regulations. Smaller oil-filled equipment, such as instrument voltage transformers and
15 bushings, will be handled and disposed by a licensed commercial entity, whereby the oil is
16 tested and recycled according to federal regulations and metal is recycled as scrap metal.

17

18 As the proposed Project includes the replacement of the existing VELCO control building
19 at the substation, VELCO performed an asbestos and lead-based paint survey of its control
20 building to determine the presence/absence of these hazardous building materials and the
21 associated disposal requirements. The survey and associated laboratory results indicated
22 that the building does not contain lead-based paint or asbestos and that decommissioned
23 materials from the building can be disposed of as general construction and demolition
24 debris.

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VELCO will dispose of sanitary waste during construction by obtaining and using portable toilet(s). One of the Middlebury substation improvements is to establish an on-site wastewater system to serve a bathroom in the new control building. VELCO is still in the consultation and design phase of its proposed on-site wastewater system for the Project. The existing in-ground septic system that once served the existing control building bathroom has not been in service for a number of years, and will be removed as part of the Project, which will be a component of the Wastewater and Potable Water Supply Permit. VELCO will obtain the necessary Wastewater and Potable Water Supply Permit from the VT DEC Drinking Water and Groundwater Protection Division for its wastewater system improvements at the site. VELCO will design and construct its wastewater system and associated connections for the new control building in accordance with its VT DEC permit and the *Wastewater System and Potable Water Supply Rules* administered by the VT DEC.

The Project requires VELCO to remove woody vegetation in limited areas surrounding the existing substation footprint to construct the proposed substation expansion and complete associated Project activities. VELCO will either chip the woody debris onsite and use them for EPSC purposes or transport the material offsite for disposal.

VELCO will stockpile and dispose of clean wood products that are brought onsite during Project construction as part of equipment and/or material deliveries (i.e. pallets) in accordance with Act 148, the Universal Recycling and Composting Law. VELCO will perform its temporary utility pole installation, removal and any pole replacement activities

1 in accordance with the Penta BMP identified in Docket 8310, which will be accomplished
2 by onsite training for any entities working on the Project that handle penta-treated poles.

3
4 The implementation and adherence to the items listed above will ensure that proper waste
5 disposal practices are performed during Project construction and operation.

6
7 In accordance with previous Substation Condition Assessment Project consultations with
8 the Vermont DEC Waste Management and Prevention Division (WMPD), VELCO
9 evaluated the existing substation soils and concrete to determine the potential for
10 contaminants and, as a result of site assessments, found that PCB mineral oil contamination
11 was present beneath the capacitor bank. VELCO conducted the necessary environmental
12 assessment work with its qualified environmental consulting firm, Stone Environmental,
13 to delineate the contamination and remediated the PCB mineral oil impacted media prior
14 to the initiation of the Project. As part of this testing effort, the results also yielded elevated
15 levels of total petroleum hydrocarbons TPH and polycyclic aromatic hydrocarbons PAH.
16 Due to the nature of the contamination and location proximate to energized electrical
17 equipment, VELCO will mitigate the PAH and TPH contaminated media during
18 construction once the substation is safely deenergized.

19
20 The Project does not require an operational stormwater permit because of the limited
21 expansion and the total resulting impervious area associated with the Project is less than
22 one acre. Additionally, the Project does not involve the construction or redevelopment of
23 more than one-half acre of impervious area.

1 As part of its maintenance activities, VELCO will install a passive secondary containment
2 system for the single transformer that is to remain onsite as part of the proposed Project
3 activities. The passive secondary containment system will align with VELCO's secondary
4 containment design standard filed previously with the PUC (such as Docket No. 8605) and
5 will contain 110% of the volume from the largest piece of oil containing equipment plus
6 the amount of precipitation from a 25-year, 24-hour storm event. VELCO is proposing to
7 retain its existing transformer as part of this Project, but will size the containment system
8 to accommodate a future transformer replacement that may contain more oil. The
9 containment tanks and sump have been sited in an upland portion of the site, north of the
10 fence expansion area. VELCO proposes to locate the passive secondary containment
11 system outfall pipe, which discharges collected and accumulated precipitation from the
12 catchment system, north of the substation expansion area within an upland area, as that low
13 portion of the property affords gravity fed drainage. This containment outfall location will
14 be sufficiently stabilized to prevent erosion and installed in accordance with the Vermont
15 Standards and Specifications for Erosion and Sediment Control and the Project's
16 Construction Stormwater Discharge permit. The proposed passive secondary containment
17 system outfall pipe location is shown on Exhibit Petitioner EJM-5. VELCO will improve
18 the overall quality of the site with regard to waste disposal; specifically, as it pertains to
19 the proposed passive secondary oil containment system. VELCO will update the
20 Middlebury substation section of its system-wide SPCC Plan, as applicable. Therefore,
21 the Project will not have an undue, adverse effect on waste disposal. Exhibit Petitioner JR-
22 3, at 4-5.

1 **9. Water Conservation & Supply [10 V.S.A. § 6086(a)(1)(C) & (a)(2)&(3)]**

2

3 Q13. Please describe water conservation measures associated with the Project.

4 A13. The Project will, where technically and economically feasible, incorporate measures to
5 conserve water use, recycle water, and maintain the efficient operation of any such
6 measures. VELCO will incorporate water conservation measures, such as low-flow toilets
7 and other fixtures at the Project site, where practically feasible. There is the potential that
8 the Project will need water for dust control, containment testing, and to help establish onsite
9 vegetation (i.e. for restoration and/or aesthetic mitigation plantings); however, the amount
10 of water used for these temporary, construction-phase related efforts will be limited in
11 duration and will only be utilized if needed. VELCO will limit water demand post-
12 construction as the substation facilities are not staffed on a regular basis, and only
13 intermittently visited by maintenance personnel. Exhibit Petitioner JR-3, at 5 and 8.

14

15 Q14. Will the Project have an undue adverse effect on water conservation?

16 A14. No. The operation of the proposed facilities will not require the utilization of water beyond
17 the intermittent use of a single bathroom by maintenance personnel. As such, the proposed
18 Project will not have an undue adverse effect on water conservation. Exhibit Petitioner JR-
19 3, at 5.

20

21 Q15. Will the Project burden existing water supplies?

22 A15. No. VELCO will obtain the necessary State Wastewater System and Potable Water Supply
23 Permit for the substation control building's water supply. VELCO is still in the consultation
24 and design phase of its proposed water supply and as such is evaluating whether a

1 connection to the Town of Middlebury municipal water system is feasible. If a municipal
2 connection is not feasible, VELCO will design an on-site water supply system for the
3 Project. The substation facility will have a limited demand for water post-construction, as
4 the substation facilities are not regularly staffed, and only intermittently visited by
5 operation and maintenance personnel. Water usage onsite is expected to increase
6 temporarily during construction; however, water will only be used on an as-needed basis
7 as described above. As such, the proposed Project will not burden existing water supplies.
8 Exhibit Petitioner JR-3, at 8.

9
10 **10. Floodways [10 V.S.A. § 6086(a)(1)(D)]**

11
12 Q16. Is any part of the Project located within a 100-year flood boundary or floodplain?

13 A16. No. VELCO analyzed the available Federal Emergency Management Agency Flood
14 Insurance Rate Maps and determined that the Project activities are not located on any lands
15 that meet criterion (10 V.S.A. § 6086(a)(1)(D)) related to floodways. As such, the Project
16 will not have an undue, adverse effect on floodways. Exhibit Petitioner JR-3, at 5.

17
18 **11. Streams [10 V.S.A. § 6086(a)(1)(E)]**

19
20 Q17. Will the Project affect any streams?

21 A17. Yes. VELCO needs to relocate an existing stream around the substation and install a new
22 outfall. There is one intermittent stream within the Project Area that currently flows from
23 south to north beneath the substation, passing beneath critical electrical equipment via a
24 failing culvert. VELCO is proposing to relocate the stream around the perimeter of the
25 substation fence, away from critical electrical infrastructure to further ensure the reliability

1 of the substation. The stream's reach will generally be the same, however, there will be
2 impacts and adjustments to the culvert inlet location and the outfall location. VELCO will
3 partially remove the failed culvert, and fill the remaining section with flowable fill. The
4 stream is classified as intermittent and thereby a state regulated river corridor does not
5 apply. The Project also requires work within the 50-foot assigned Riparian Buffer,
6 however, this area is generally maintained, and the character of the Riparian Buffer will
7 remain the same. As such, the Project will have no undue, adverse effect on streams.
8 Exhibit Petitioner JR-3, at 6.

9
10 **12. Shorelines [10 V.S.A. § 6086(a)(1)(F)]**

11
12 Q18. Does the Project affect any shorelines?

13 A18. No. There are no surface waters (lakes, ponds, reservoirs, or rivers) within or near the
14 Project area that would constitute a shoreline as defined by 10 V.S.A. § 6001(17) or Act
15 250. As such, the proposed Project will not have an undue adverse effect on shorelines.
16 Exhibit Petitioner JR-3, at 7.

17
18 **13. Wetlands [10 V.S.A. § 6086(a)(1)(G)]**

19
20 Q19. Will the Project result in undue, adverse effects to wetlands?

21 A19. No. VHB performed thorough field investigations specifically targeted at identifying and
22 delineating jurisdictional wetlands and identified a total of three (3) wetlands within the
23 PAA pursuant to the USACE wetland delineation methodology. One of the wetlands
24 identified and mapped within the PAA is adjacent to the existing substation and will
25 require permit approval for regulated impacts associated with the proposed substation

1 upgrades. This wetland is identified as MI-001 within the Natural Resource Assessment
2 Report (see Attachment 1). Currently, a stream identified as 2020-SC-MI-002 runs
3 beneath the substation via a failing culvert as discussed above under the stream criterion.
4 VELCO is proposing to realign the culverted stream around the substation fence, which
5 requires unavoidable impacts to the Class II wetland and regulated 50-foot buffer
6 upstream and downstream of the existing substation footprint. VELCO also proposes
7 impacts outside the substation fence within wetland MI-001 and its regulated 50-foot
8 buffer to improve site drainage characteristics along the southern side of the substation, to
9 remove an abandoned wastewater and water supply system, to expand the access road to
10 support access to the temporary substation, and to install temporary bypass lines to
11 support electric reliability during the Project construction.

12
13 VELCO met with the VT DEC and the US Army Corps of Engineers onsite to review the
14 wetland delineation boundaries, proposed wetland classifications, and the Project's
15 anticipated wetland and wetland buffer impacts. The US Army Corps of Engineers and VT
16 DEC reviewed and approved the wetland delineations and classifications during the site
17 visit. Further consultation with the VT DEC Wetlands Program confirmed that a permit
18 would be issued for the Project, as the proposed impacts are unavoidable and VELCO has
19 taken the necessary steps to minimize impacts as part of the design. VELCO will seek the
20 necessary authorization from the VT DEC Wetlands Program and the US Army Corps of
21 Engineers for its proposed impacts to jurisdictional wetlands (and buffers) and will adhere
22 to its Construction Stormwater Discharge permit, Project-specific EPSC plan, and VEGM

1 to minimize the Project's potential impacts to wetlands during construction. Therefore, the
2 Project will not have an undue adverse effect on wetlands. Exhibit Petitioner JR-3, at 7-8.

3
4 **14. Soil Erosion [10 V.S.A. § 6086(a)(4)]**

5
6 Q20. Will the Project result in undue, adverse effects on soil erosion?

7 A20. No. The proposed Project will require a VT DEC Construction Stormwater Discharge
8 Permit, as the construction activities will involve more than one acre of earth disturbance.
9 VELCO will develop and adhere to a detailed EPSC plan for the Project to facilitate
10 compliance and proper implementation of stormwater Best Management Practices (BMPs)
11 that VELCO can implement to avoid and minimize soil erosion during construction.

12
13 Consequently, VELCO will perform all earth-disturbing activities in accordance with the
14 site-specific EPSC Plan, the Construction Stormwater Permit conditions, the Vermont
15 Standards and Specifications for EPSC, and the VEGM. With the adherence to these
16 conditions and BMPs, the proposed construction activities will not cause undue, adverse
17 effects on soil erosion, or cause a reduction in the capacity of the land to hold water from
18 the Project. Exhibit Petitioner JR-3, at 8.

19
20 **15. Rare and Irreplaceable Natural Areas, Necessary Wildlife Habitat, Endangered**
21 **Species [10 V.S.A. § 6086(a)(8)]**

22
23 Q21. Will the Project have an undue adverse effect on rare and irreplaceable natural areas,
24 necessary wildlife habitat, or threatened or endangered species?

1 A21. No. VELCO will perform all work within and directly adjacent to the existing developed
2 areas of the substation yards and maintained areas. VHB performed an assessment for Rare
3 and Irreplaceable Natural Areas (RINA), Necessary Wildlife Habitat, and Rare Threatened
4 and Endangered (RTE) Species for the entire 11-acre PAA in 2020. From a database and
5 subsequent field review, VHB determined that no Natural Communities - significant or
6 otherwise – occur within the PAA that could constitute a RINA. VHB assessed the PAA
7 for Necessary Wildlife Habitat, including Deer Wintering Areas, Black Bear Habitat and
8 Grassland Bird Habitat and concluded that the field adjacent to the substation meets the
9 size and composition criteria to be considered potential Grassland Bird Habitat. The minor
10 substation expansion would not have a permanent adverse negative impact on Grassland
11 Birds as it is in an area adjacent to existing infrastructure, which includes work proximal
12 to vertical structures such as overhead transmission lines and poles, guy wires, substation
13 electrical infrastructure and fencing. For temporary impacts associated with the installation
14 of the temporary substation and staging areas, impacts will be mitigated through a one time
15 in-lieu fee payment for the duration of temporary impacts, which VELCO assumes to be
16 one year. VELCO and VHB discussed the Project and associated impacts with VT F&W
17 in December, 2022 and this approach was supported. No other areas of Necessary Wildlife
18 Habitat are mapped or occur within the PAA.

19
20 VHB’s RTE assessment included a desktop review, habitat assessment and field
21 reconnaissance of the PAA. As part of the desktop review, VHB identified two plant
22 species occurring outside the PAA but within a one-mile radius; false pennyroyal
23 (*Trichostema brachiatum*), and hairy honeysuckle (*Lonicera hirsuta*). Additionally, the

1 desktop review indicated an element occurrence for Northern Long-Eared Bat and the PAA
2 falls within Indiana Bat summer habitat. VHB conducted a subsequent field survey and
3 found no RTE species present within the PAA. Additionally, VHB conducted a follow-up
4 potential roost tree inventory in 2022 and found no suitable potential roost trees within the
5 PAA. As such, the Project will have no undue adverse effect on RINA, Necessary Wildlife
6 Habitat, or Threatened or Endangered Species. Exhibit Petitioner JR-3, at 9-11.

7
8 **16. Greenhouse Gas Impacts [30 V.S.A. § 248(b)(5)]**

9
10 Q22. Will the proposed VELCO work have any significant greenhouse gas impacts?

11 A22. No. VELCO's proposed construction activities will result in the release of minor emissions
12 associated with the operation of gasoline- and diesel-powered engines and equipment.
13 These activities, however, will be limited in nature and duration. Moreover, there will be
14 no sustained releases of greenhouses gases associated with the operation of the facilities.
15 Exhibit Petitioner JR-3, at 3.

16
17 The Project will involve the replacement of an existing 115 kV circuit switcher with a 115
18 kV SF6 circuit breaker. This breaker will utilize a temperature compensated gas pressure
19 gauge similar to those currently installed at numerous other VELCO substations, and is a
20 sealed unit that does not emit SF6 gas as part of its normal operation. The SF6 gas breaker
21 will also be equipped with a real-time monitoring device that measures SF6 density and SF6
22 moisture dew point, in addition to several other non-SF6 related functions. The existing
23 Middlebury substation contains approximately 262 pounds, in total, of SF6 gas within the
24 various gas-insulated equipment on site. Following completion of the proposed Project, the

1 Middlebury substation will contain 445.6 pounds, in total, of SF6 gas. VELCO's total
2 nameplate capacity of SF6 gas containing equipment on its entire transmission system is
3 anticipated to be 31,493.2 pounds following the Project. The net increase of 183.6 pounds
4 is the result of replacing the existing circuit switcher with a circuit breaker and the
5 replacement of two existing circuit breakers with equivalent SF6 circuit breakers.

6
7 VELCO will ensure proper handling and recycling of SF6 gas containing equipment during
8 the Project through implementation and adherence to its SF6 Policy, which has been
9 reviewed and approved by VT ANR Air Quality and Climate Division as part of previous
10 collaborative review meetings for these iterative VELCO substation upgrade projects. In
11 compliance with the US Environmental Protection Agency (EPA) Greenhouse Gas
12 Reporting Program, VELCO will report its SF6 leakage quantities to the EPA on an annual
13 basis. VELCO provides this same SF6 leakage quantity information to VT ANR as a result
14 of previous agreements. As such, there will be no undue, adverse effect associated with
15 greenhouse gas emissions associated with the proposed Project. Exhibit Petitioner JR-6.

16 **17. Use of Natural Resources [30 V.S.A. § 248(b)(5)]**

17
18 Q23. Will the Project work use natural resources?

19 A23. VELCO will construct this Project while minimizing the use of natural resources. VELCO
20 expects to use a minor amount of natural resources to complete the Project, which will be
21 mainly limited to the clearing of vegetation, the use of stone to surface the substation yard,
22 and the utilization of petroleum-based fuels and lubricants associated with the operation of
23 gasoline- and diesel-powered vehicles and equipment. VELCO will use stone and

1 aggregate to construct the temporary substation, however, VELCO will be able to reclaim
2 the vast majority of that material and it could be reused by VELCO or others. As such,
3 there will be no undue adverse use of natural resources.

4
5 **18. Primary Agricultural Soils [30 V.S.A. § 248(b)(5)]**

6
7 Q24. Does the Project have an undue adverse effect on primary agricultural soils as defined by
8 10 V.S.A. § 6001(15)?

9 A24. As referenced in Exhibit Petitioner JR-3, there are 11.5 acres of Statewide and Statewide
10 (b) Primary Agricultural Soils (“PAS”) within the PAA at the substation Project site. The
11 Project has been designed to minimize PAS impacts by redeveloping and expanding an
12 existing substation, and utilizing the existing farm road for access to the temporary
13 substation. Proposed temporary impacts to PAS total approximately 1.5 acres and proposed
14 permanent impacts to PAS total approximately 1.1 acres. Unavoidable permanent impacts
15 to PAS include roadway expansion and realignment, substation fence expansion, new
16 septic system, and oil containment system. Temporary impacts include temporary
17 improvements and extension of access roads, the construction of the temporary substation,
18 temporary placement of utility poles, and staging areas to support the Project. The Agency
19 of Agriculture Food and Markets (“AAFM”) generally requires mitigation for permanent
20 impacts when mitigation totals exceed two acres. The agricultural value of the impacted
21 soils ranges from 6 to 7, meaning mitigation is required at a 2:1 ratio. As such,
22 approximately 2.2 acres of mitigation will likely be required for permanent impacts to PAS.
23 VELCO will coordinate with AAFM to implement any necessary mitigation, particularly
24 if design plans change resulting in more or fewer impacts to PAS. As such, there will be

1 no undue adverse impacts to mapped Statewide importance soils from the Project. Exhibit

2 Petitioner JR-3, at 11.

3

4 **19. Conclusion**

5

6 Q25. Does this conclude your testimony at this time?

7 A25. Yes, it does.

8

9