

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Case No. _____

Petition of Green Mountain Power for a Certificate of Public Good pursuant to 30 V.S.A. § 248 authorizing the rebuild of the Lowell Substation and the upgrade of 18.1 miles of the B20 line from Johnson to Lowell, and Joint Petition of GMP, the Village of Morrisville Water and Light Department, and the Village of Johnson Water and Light Department for a CPG pursuant to 30 V.S.A. § 248 to authorize the upgrade of 1.5 miles of the B22 line, in the Towns of Lowell, Eden, Johnson, and Morristown, Vermont	
--	--

DIRECT TESTIMONY OF WITNESS
TIMOTHY O. UPTON
ON BEHALF OF GREEN MOUNTAIN POWER

November 4, 2019

In his testimony Mr. Upton discusses the potential land-use, aesthetic, and noise-related impacts of this Project.

EXHIBITS

CONFIDENTIAL Exhibit GMP TOU-1 (REDACTED)	NE ARC ARA B20 (Redacted)
CONFIDENTIAL Exhibit GMP TOU-1*	CONFIDENTIAL NE ARC ARA B20
CONFIDENTIAL Exhibit GMP TOU-2 (REDACTED)	B20 Phase I End-of-Field Letter (Redacted)
CONFIDENTIAL Exhibit GMP TOU-2*	CONFIDENTIAL B20 Phase I End-of-Field Letter
Exhibit GMP TOU-3	VHB Natural Resources Report
Exhibit GMP TOU-4	T.J. Boyle Associates, LLC Aesthetics Report
Exhibit GMP TOU-5	Lamoille County Planning Commission letter
Exhibit GMP TOU-6	RSG Sound Study
CONFIDENTIAL Exhibit GMP TOU-7 (REDACTED)	NE ARC B22 ARA (Redacted)
CONFIDENTIAL Exhibit GMP TOU-7*	CONFIDENTIAL NE ARC B22 ARA

*Copies of the Confidential Exhibits were provided only to the Public Utility Commission under seal.

DIRECT TESTIMONY OF TIMOTHY O. UPTON

1 **1. Q. Please state your name, occupation, and business address.**

2 **A.** My name is Timothy O. Upton, and I am employed by VHB, Inc. (“VHB”) as
3 Senior Environmental Scientist and Project Manager. My business address is 40 IDX Drive
4 Building 100, Suite 200, South Burlington, VT 05403.

5

6 **2. Q. Please describe your background and experience.**

7 **A.** I have worked for VHB since September 2018. From June 1999 until September
8 2018 I was Manager of Environmental Affairs at Green Mountain Power (formerly Central
9 Vermont Public Service Corporation “CVPS”). Prior to that, I worked for four years as a Land
10 Use Planner with Southern Windsor County Regional Planning Commission. I graduated from
11 St. Lawrence University in 1988. In 1992, I completed a Master of Science Degree in Natural
12 Resources Planning at the University of Vermont, and in 1995 I received a Degree as Master of
13 Studies in Environmental Law from Vermont Law School.

14

15 **3. Q. Have you previously testified before the Vermont Public Utility Commission**
16 **(the “Commission”)?**

17 **A.** Yes, I have provided testimony before the PUC, most recently in Docket Nos.
18 8536, 8612, 8735, 8867, 18-0269-PET, 18-2910-PET, and 18-4121-PET.

19

20 **4. Q. What is the purpose of your testimony in this case?**

21 **A.** My testimony will discuss the relationship of the proposed project to the orderly
22 development of the region and its possible effects on aesthetics, historic sites, air and water

1 purity, and the public health and safety. The Project is described in detail in Mr. Fiske's
2 testimony, but generally involves upgrades of two existing transmission lines, the B20 line (also
3 referred to as Line 133) and a portion of the B22 line, and the rebuild of GMP's Lowell
4 Substation (collectively the "Project").

5

6 **5. Q. Please summarize your testimony.**

7 **A.** My testimony involves the potential land-use, aesthetic and noise-related impacts
8 of the Project. Specifically, I conclude that the construction of the Project will:

- 9
- 10 • Not unduly interfere with the orderly development of the region with due
11 consideration having been given to the recommendations of the municipal and
12 regional planning commissions, the recommendations of the municipal legislative
13 bodies, and the land conservation measures contained in the plan of any affected
14 municipality as required under 30 V.S.A. § 248(b)(1); and
 - 15 • Not have an undue adverse effect on aesthetics, historic sites, air and water purity,
16 water supplies, soil erosion, traffic, education and municipal services, public
17 investments, prime agricultural soils, greenhouse gases, and the public health and
18 safety.

19 **6. Q. Will construction of the Project interfere with the orderly development of the**
20 **region, giving due consideration to recommendations from municipal and regional**
21 **planning commissions and municipal legislative bodies, and land conservation measures**
22 **included in the applicable municipal plans?**

23 **A.** No. The project involves the in-place reconstruction and upgrade of existing
24 transmission facilities in Johnson, Eden, Lowell, and Morristown, along with the reconstruction
25 of an existing substation. Regular maintenance, improvements, and upgrades will support

1 existing and future land-use planning efforts in each affected municipality and in the surrounding
2 region, and will not negatively impact the orderly development of the region.

3 Under the heading of Siting Energy Projects, the 2016 Johnson Municipal Development
4 Plan contains the following statement: *“Before implementation of local energy projects, the*
5 *feasibility of these approaches should be assessed both for cost effectiveness, site potential,*
6 *impacts to natural, scenic and working landscapes, and neighboring property owners.”* There
7 are no applicable land conservation measures in the Plan.

8 In Johnson, the Project consists of upgrades to an existing transmission line, including the
9 installation of new conductors and replacement of poles in the existing alignment. The Project
10 will increase efficiency and reliability of the system with all construction limited to the existing
11 right of way.

12 The 2018 Eden Town Plan does not contain any specific policies related to the
13 maintenance and upgrade of electric transmission lines. The B20 line runs just west of Vermont
14 Route 100 in an area identified in the Plan as having significant scenic value. The Plan contains
15 the following relevant policies related to Scenic Resources:

- 16 • *“Eden supports efforts that record local history, preserve historic structures,*
17 *conserve scenic resources and preserve Eden’s archaeological record. Through*
18 *these efforts the town’s heritage will be recorded, protected and made available*
19 *for residents and visitors to learn what events have made Eden the place it is*
20 *today.”*
- 21 • *“Development around the natural scenic resources identified should be sited and*
22 *constructed in such a manner as to retain the natural scenic beauty of the areas.*
23 *Removal of the natural vegetation on the site should be minimized and structures*

1 *should be screened or hidden from view as best as possible.”*

2 The work in the identified scenic area consists of upgrades to an existing transmission
3 line, within the existing alignment. No additional clearing will be required. Views of the
4 transmission line are extremely limited from the road in this area, and the scenic value of this
5 section of Route 100 will not be impacted by the Project. Reconstruction within the existing
6 transmission corridor will effectively conserve identified scenic resources. GMP hired Northeast
7 Archaeological Resource Center (NE ARC) of Farmington, Maine to conduct Archeological
8 Resource Assessments (ARA) within the Project area. Along the B20 Line between the Johnson
9 and Lowell Substations, the ARA revealed 59 archeologically sensitive areas (ASAs). See
10 **CONFIDENTIAL Exhibit GMP TOU-1 (REDACTED)** (the NE ARC ARA B20 redacted),
11 and **CONFIDENTIAL Exhibit GMP TOU-2 (REDACTED)** (the B20 Phase I End-of-Field
12 Letter redacted). The Confidential versions of these reports **CONFIDENTIAL Exhibit GMP**
13 **TOU-1 and CONFIDENTIAL Exhibit GMP TOU-2** will be filed under seal with the Public
14 Utility Commission only. NE ARC has begun Phase I surveys to identify any historic sites and
15 assess their significance.

16 The Eden Plan contains the following Natural and Productive Resources goals:

17 *Goal #1: To maintain healthy conditions in natural areas, fragile areas, and areas with*
18 *significant ecological value including wetlands, uplands, and critical plant and animal habitats;*
19 *to ensure fragile and natural areas are protected and preserved; and to maintain the natural*
20 *diversity of wildlife.*

21 *Goal #2: For Eden’s water resources, including its lakes, ponds, streams, rivers,*
22 *wetlands, groundwater, and associated habitats, to be preserved, and, where degraded,*
23 *improved in order to ensure water quality for drinking, recreation, and the environment. Specific*

1 goals related to various water resources are outlined below:

2 • **Rivers and Streams:** To ensure Eden's rivers and streams contain clean water, a
3 healthy riparian habitat and stable stream banks.

4 • **Lakes and Ponds:** To encourage maintenance of the overall health of our lakes and
5 ponds for recreation and environmental purposes.

6 • **Wetlands:** To preserve and protect wetlands from pollution, filling, and any other uses
7 or activities that will result in their degradation or a reduction in its capacity to provide wildlife
8 habitat, flood control and water storage.

9 • **Flood Hazard Areas:** To protect the health, safety and welfare of the residents of Eden
10 by discouraging development in flood hazard areas.

11 • **Groundwater:** To encourage maintenance of the quality and quantity of local
12 groundwater supplies, per state regulations.

13 • **Water Quality:** To maintain and, where degraded, improve the water quality within the
14 town.

15 The Eden Plan also contains several Water Resources policies, including:

16 • **Development within or proximate to designated rivers and streams should follow Vt.**
17 **Fish and Wildlife Guidelines for Stream Crossings and should protect and maintain a natural**
18 **vegetative buffer.**

19 • **Any development related to wetlands shall adhere to state regulations.**

20 • **Development should be discouraged in flood hazard areas. Agriculture, recreation**
21 **fields, parks, and open space are all appropriate uses of flood hazard areas.**

22 • **All construction should provide adequate erosion control per state guidelines and**
23 **regulations.**

1 In Eden, the Project involves the reconstruction of an existing transmission line in its
2 current alignment, including the installation of new conductors and replacement of poles in the
3 existing alignment. VHB has conducted an inventory of natural resources, including surface
4 waters, wetlands, and flood hazard areas. The Project has been designed to avoid significant
5 impacts to these resources through project design and erosion control methods. See **Exhibit**
6 **GMP TOU-3** (VHB Natural Resources Report for the Project) at p. 7-19.

7 There are no applicable land conservation measures in the Eden Plan.

8 The 2014 Lowell Town Plan does not contain any specific policies related to the
9 maintenance and upgrade of electric transmission lines, and there are no applicable land
10 conservation measures in the Plan. In Lowell, the project consists of the reconstruction of an
11 existing transmission line, including installation of new conductors and replacement of poles in
12 the existing alignment, along with the reconstruction and expansion of an existing substation.

13 The 2015 Morristown Municipal Plan does not directly address the maintenance of
14 electric transmission facilities. The Plan contains the following Natural Resource Policy:
15 “Development proximate to rivers, streams and wetlands must take place in such a way as to
16 minimize or avoid crossing the water feature.”

17 In Morristown, the Project consists of the reconstruction of an existing transmission line
18 (the B22 line), including the installation of new conductors and replacement of poles in the
19 existing alignment. The line crosses one intermittent stream, one ephemeral stream, and four
20 wetlands. The line will be reconstructed in its existing alignment. No additional tree clearing is
21 required. See Exhibit GMP TOU-3 at p. 14-20, Appendix C.

22 Although there is no construction planned within the Town of Hyde Park, GMP intends
23 to use a property adjacent to Route 100 in Hyde Park as a laydown area. Storage of materials

1 and equipment will be temporary and limited to the duration of site preparation and construction.
2 GMP will employ appropriate traffic control if necessary while accessing the site.

3 Under Energy Goals, the 2018 Northeast Kingdom Regional Plan (“NKRK”) states that
4 “An adequate, reliable, diverse, and secure energy supply will benefit the region.” In support of
5 this goal, the Plan contains the following relevant Energy Policies:

- 6 • *“Support the upgrade of regional transmission systems to continue to reduce*
7 *constraints.”*
- 8 • *“Support the maintenance and upgrade of existing energy generation facilities*
9 *and related infrastructure.”*

10 The Project’s primary purpose is to upgrade existing electric transmission infrastructure
11 in order to reduce system constraints and maintain system reliability.

12 Under Historic, Cultural, and Scenic Goals, the Plan says, “Significant historic, cultural,
13 and scenic resources within the region should be identified and preserved.” GMP hired NE ARC
14 to conduct an Archeological Resource Assessment of the Project area. NE ARC identified 59
15 archeologically sensitive areas, and has begun a Phase I survey to identify any historic sites and
16 assess their significance. See CONFIDENTIAL Exhibit GMP TOU-1 (REDACTED) and
17 CONFIDENTIAL Exhibit GMP TOU-2 (REDACTED).

18 The NKRK contains a number of relevant Natural Resource Goals, including:

- 19 • *“The quality and quantity of the region’s surface waters should be protected,*
20 *maintained, and restored.*
- 21 • *The quality and quantity of existing and potential groundwater sources should be*
22 *protected and improved.*
- 23 • *Significant wetlands within the region should be protected.”*

1 The NRKP contains a Water Supply goal that “Water supplies and water systems should
2 not be contaminated, depleted, or degraded.”

3 VHB has conducted an inventory of natural resources, including surface waters and
4 wetlands. The Project has been designed to avoid significant impacts to these resources through
5 project design and erosion control methods. The siting, storage, installation, removal, and
6 retirement of treated wood poles will be in accordance with the Vermont Department of
7 Environmental Conservation’s (DEC) Best Management Practices Associated With the Use of
8 Pentachlorophenol-treated Utility Poles in Vermont. See Exhibit GMP TOU-3 at p. 7-20,
9 Appendix E.

10 There are no applicable land conservation measures in the NRKP.

11 The 2018 Lamoille County Regional Plan contains passages relevant to the Project under
12 several different headings.

13 Energy Strategy: “Energy generation, transportation, and consumption should be cost
14 efficient and economically beneficial to residents.”

15 The Project involves the cost-effective maintenance of existing electric transmission
16 infrastructure.

17 Action Items:

- 18 • *“Research and identify state, federal, and cost-sharing opportunities to fund local
19 transmission line upgrades and expansion of existing 3-phase power. Partner
20 with electric utilities and communities to establish a capital plan for the County to
21 upgrade transmission lines to better meet energy demands.”*

22 The Project involves maintenance and upgrades to existing transmission and substation
23 facilities that will support local and regional development goals.

1 **7. Q. Has GMP received any substantive comments from the municipal or regional**
2 **commissions related to the criteria of 30 V.S.A. § 248(b)? And if so, how has the Company**
3 **addressed them?**

4 **A.** On June 4, 2019 GMP provided a project description, a map showing the overall
5 project, and a proposed site plan for the rebuilt Lowell Substation to the Selectboards and
6 Planning Commissions of the Village and Town of Johnson, Town of Eden,
7 Morristown/Morrisville, and the Town of Lowell, along with the Lamoille County Planning
8 Commission and the Northeastern Vermont Development Association. Although no
9 construction is planned within the town of Hyde Park, because GMP intends to use a property
10 adjacent to Route 100 in Hyde Park as a laydown area, a 45-day notice packet was also provided
11 to officials in the Town and Village of Hyde Park.

12 The Lamoille County Planning Commission sent a letter to GMP in response to the 45-
13 day notice packet. A copy of that letter is attached here as **Exhibit GMP TOU-5**. In it, the
14 Lamoille County Planning Commission states that based its review of the 45-day notice
15 materials, it has determined that the Project conforms to the 2015-2023 regional plan.

16

17 **8. Q. 30 V.S.A. § 248(b)(5) - Will construction have any undue adverse impacts on**
18 **aesthetics, historic sites, air and water purity, the natural environment, use of natural**
19 **resources, or public health and safety? More specifically, please address criteria listed in 10**
20 **V.S.A. §§ 1424(d) and 6086(a)(1) through (8) and 9(K), impacts to primary agricultural**
21 **soils, and greenhouse gas impacts, as numbered sequentially below.**

22 **A.** No, as I discuss more specifically below.

23

1 **9. Q. What analyses were conducted to assess the criteria under 30 V.S.A. §**
2 **248(b)(5)?**

3 **A.** GMP hired Northeast Archaeological Resource Center to conduct Archeological
4 Resource Assessments within the Project area, which included the B20 corridor and that section
5 of the B22 corridor to be upgraded.

6 GMP hired Resource Systems Group (“RSG”) of White River Jct., VT to conduct a noise
7 study of the proposed new substation and transformer in Lowell.

8 GMP hired T.J. Boyle Associates, LLC to perform an aesthetic review of all three Project
9 components, the Lowell Substation rebuild, and upgrades to the B20 and B22 lines.

10 GMP hired VHB to perform a Natural Resources Assessment of the Lowell Substation
11 rebuild, and upgrades to the B20 and B22 lines, including a review of the proposed project
12 laydown yards in Eden and Hyde Park.

13

14 **10. Q. 10 V.S.A. § 6086(a)(1) – Pollution: Will the Project result in undue noise or**
15 **other air pollution?**

16 **A.** No. With respect to air pollution, any dust from construction activities will be
17 suppressed in accordance with the Vermont Department of Environmental Conservation
18 Standards and Specifications for Erosion Prevention and Sediment Control. The Project does not
19 involve any burning.

20 Resource Systems Group of White River Jct., VT conducted a noise study that included
21 monitoring of existing conditions and modeling of the proposed new substation and transformer
22 in Lowell. RSG concluded that the proposed substation transformer will be quieter than the
23 existing transformer. RSG’s modeling predicts that the Project will result in an overall reduction

1 in noise of 3-4 dB at surrounding sensitive receptors. The predicted noise levels include noise
2 from the proposed GMP transformer and the existing transformer at the adjacent Vermont
3 Electric Co-op substation, with and without cooling fans running. See **Exhibit GMP TOU-6**
4 (RSG Sound Study).

5 Noise from construction equipment will be limited to the duration of construction. It is
6 anticipated that the construction hours for the Project will be from 7:00 a.m. to 7:00 p.m.
7 Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday, with no construction taking
8 place on Sundays or state and federal holidays except where construction activities must be
9 performed during required outages needed to maintain system reliability.

10

11 **11. Q. 10 V.S.A. § 6086(a)(1) – Pollution: Will any Project components result in**
12 **undue water pollution?**

13 **A.** No. As discussed further below with respect to specific criteria, there will be no
14 undue adverse impacts on any water resources.

15

16 **12. Q. 10 V.S.A. § 6086(a)(1)(A) – Headwaters: Is the Project located on lands**
17 **located in headwaters of watersheds; drainage area of 20 square miles or less; above 1,500**
18 **foot elevation; watersheds of public water supplies; or areas supplying significant recharge**
19 **waters to aquifers?**

20 **A.** The Project is located partly within areas defined as headwaters. The Project will
21 not require an operational stormwater discharge permit from VT DEC. Due to anticipated
22 ground disturbance during Project implementation, the Project will require a construction phase
23 stormwater discharge permit, which will involve compliance with the DEC Low-Risk Handbook

1 for erosion and sediment control or a project-specific Erosion Prevention and Sediment Control
2 (EPSC) plan, depending on final risk assessments. GMP will adhere to the VT DEC Best
3 Management Practices for the Use of Pentachlorophenol-treated Utility Poles in Vermont during
4 construction and retirement activities. There will be no reduction in ground or surface water
5 quality of headwaters or non-headwater areas from the construction and/or operation of the
6 planned Project activities. See Exhibit GMP TOU-3 at p. 7-11 for further detail.

7

8 **13. Q. 10 V.S.A. § 6086(a)(1)(B) – Waste Disposal: Will the Project meet applicable**
9 **Health and Environmental Conservation Department regulations regarding the disposal of**
10 **wastes?**

11 **A.** Yes. Retired and unused materials will be recycled or disposed of as appropriate
12 and in compliance with all applicable regulations. Because the Project will involve less than one
13 acre of impervious surfaces, it will not require a Vermont Stormwater Operating permit under
14 the federal Clean Water Act. Earth disturbance associated with construction and improvement of
15 access routes will be greater than one acre, and the Project will therefore require authorization
16 under a Vermont Stormwater Construction permit. See Exhibit GMP-TOU-3 for additional
17 detail related to stormwater and erosion prevention. The proposed substation design will include
18 oil containment sufficient to accommodate the volume of all oil-filled equipment in the facility.
19 See Exhibit GMP JRF-9.

20 VHB will assess the Lowell Substation site for potential contamination of soils and
21 equipment foundations. The Vermont Division of Waste Management and Prevention's
22 (WMPD) Sites Management Section (SMS) has approved a plan for sampling and analysis of
23 soils and concrete. Any remediation, confirmatory sampling, and disposal of contaminated

1 materials will be in accordance with the WMPD's 2018 Procedure for Conducting Hazardous
2 Material Investigation and Remediation Activities under 30 V.S.A. Section 248, and performed
3 with the approval of SMS. Clay Point Associates of Williston, Vermont will conduct an
4 assessment of the existing substation control building for lead and asbestos, and an assessment of
5 the existing substation yard for asbestos. Clay Point will conduct any required abatement
6 measures in accordance with all applicable regulations.

7

8 **14. Q. 10 V.S.A. § 6086(a)(1)(C) - Water Conservation: Will the Project require**
9 **any significant use of water?**

10 **A.** The project will not require the use of water.

11

12 **15. Q. 10 V.S.A. § 6086(a)(1)(D) – Floodways: Is the Project located in a floodway?**
13 **If so, will the Project endanger the health, safety, or welfare of the public or of adjoining**
14 **landowners?**

15 **A.** The Project does not involve any construction within floodways. The Lowell
16 Substation is not located within a designated floodway or Special Flood Hazard Area (SFHA).
17 There will be no new structures located within SFHAs.

18 Along the B20 line, 8 existing structures within SFHAs will be replaced; 15 structures
19 will be installed or replaced within mapped river corridors, and 4 additional structures will be
20 installed or replaced within 50 feet of streams that VHB believes are subject to a 50-foot River
21 Corridor. Overall there will be 4 fewer poles located within river corridors than in the existing
22 configuration.

23 Along the B22 line, there are no new or existing structures located within a SFHA; 6

1 structures will be installed or replaced within a River Corridor. GMP will install and replace
2 pole structures within SFHAs and designated River Corridors only in accordance with necessary
3 approvals and registrations under DEC's Flood Hazard and River Corridor Protection Rule.

4 The Project will not restrict or divert the flow of floodwaters (floodway or floodway
5 fringe), or endanger the health, safety, and welfare of the public, riparian, or downstream
6 landowners during flooding or from potential erosion. See Exhibit GMP TOU-3 at p. 12-13.

7

8 **16. Q. 10 V.S.A. § 6086(a)(1)(E) – Streams: Will the Project maintain the natural**
9 **condition of streams?**

10 **A.** Yes. The Project will maintain the existing natural stream channel conditions, and
11 will not endanger the health, safety, or welfare of the public or adjoining landowners.

12 There are no streams within the study area for the Lowell Substation. Within the B20
13 corridor, VHB identified 66 stream segments. Within the B22 corridor, VHB identified 2
14 intermittent streams and one ditch, each of which is crossed by the line. 50-foot riparian buffers
15 were assumed for all perennial and intermittent streams.

16 No construction activities will occur within the delineated stream channels. Therefore,
17 there will be no direct stream impacts. Although all construction near streams will take place
18 within an existing cleared transmission corridor, Project design included avoidance of
19 construction within riparian buffers where practicable. Stream crossings will be accomplished
20 using existing culverted road crossings that will not require upgrades, via use of temporary
21 construction mat bridges, or in one instance, use of an existing agricultural ford crossing of the
22 Missisquoi River. See Exhibit GMP TOU-3, at p. 13-15.

23

1 **17. Q. 10 V.S.A. § 6086(a)(1)(F) – Shorelines: Is the Project located on a Shoreline?**

2 **A.** Yes, part of the Project is located on a shoreline. Between the Johnson and
3 Lowell Substations, Line B20 crosses the Missisquoi and Gihon Rivers. Along Line B22, there
4 are two poles adjacent to the shoreline of the Lamoille River, between the river and Cady’s Falls
5 Road, just south of the hydroelectric plant.

6 The transmission lines will be reconstructed in their existing alignments. In Shoreline
7 areas, poles will either be replaced in-place, or farther from the shoreline if practicable. GMP
8 will obtain all necessary approvals under the Vermont Flood Hazard and River Corridor Rule
9 prior to construction, in addition to approval from the U.S. Army Corps of Engineers for the
10 replacement of the existing aerial crossing of the Missisquoi River, a navigable waterway.

11

12 **18. Q. Must the Project of necessity be located on shorelines? If so, will the Project**
13 **retain the shoreline and waters in their natural condition; allow continued access to the**
14 **waters and the recreational opportunities provided by the waters; retain or provide**
15 **vegetation which will screen the Project from the waters; and stabilize the bank from**
16 **erosion, as necessary, with vegetative cover?**

17 **A.** Yes. The line must be located on shorelines because it must cross the rivers to
18 connect substation facilities. It will remain centered in the existing alignment, and it must
19 continue to connect with other existing lines in the area. Access to rivers will be unchanged and
20 unimpeded by the Project. There will be no additional tree clearing required for the Project;
21 therefore, existing vegetative cover adjacent to rivers and affecting shoreline functions will be
22 retained in its present state and maintained in accordance with GMP’s approved Vegetation
23 Management Plan. See Exhibit GMP TOU-3 at p. 15-16.

1 **19. Q. 10 V.S.A. § 6086(a)(1)(G) – Wetlands: Is the Project in compliance with the**
2 **rules of the Secretary of Natural Resources relating to significant wetlands?**

3 A. Yes. The Project avoids and minimizes impacts to significant wetlands and their
4 associated upland buffers. GMP hired VHB to conduct an inventory of wetlands and other
5 surface water features within the Project area. A wetland survey was performed at the Lowell
6 Substation in 2015. Wetland delineations were performed on the B20 and B22 lines in 2017 and
7 2019. There are no wetlands in the study area for the Lowell Substation. VHB identified 139
8 Class II and Class III wetlands along the B20 and B22 lines. Most of the proposed work in
9 wetlands and applicable wetland buffers will be considered maintenance of an existing overhead
10 utility line, which under the Vermont Wetland Rules is an Allowed Use provided that certain
11 best management practices (BMPs) are properly applied. Changes in some individual structure
12 locations will be considered as new overhead utility structures under the VWR and will require
13 approval in the form of a Vermont wetland permit, in addition to adherence to the terms of the
14 ACOE Vermont General Permit. After working with GMP to ensure that the proposed design
15 avoided wetland impacts to the extent feasible, VHB determined that the Project will comply
16 with all applicable wetland regulations, based on receipt of state and federal permit approvals
17 and adherence to required BMPs for maintenance activities. See Exhibit GMP TOU-3, at p. 17-
18 20.

19

20 **20. Q. 10 V.S.A. § 6086(a)(2) – Sufficient Water Availability: Is there sufficient**
21 **water available for the needs of the Project?**

22 A. The Project will not require a water supply.

23

1 **21. Q. 10 V.S.A. § 6086(a)(3) – Existing Water Supply: Will the Project cause an**
2 **unreasonable burden on an existing water supply?**

3 A. The Project will not require a water supply.
4

5 **22. Q. 10 V.S.A. § 6086(a)(4) – Erosion: Will the Project cause unreasonable soil**
6 **erosion or reduction in the capacity of the land to hold water?**

7 A. No. The Project involves the reconstruction and expansion of a substation and the
8 in-place reconstruction of two transmission lines. Earth disturbance, related to substation
9 construction, structure installation, and provision of stable access for construction vehicles, is
10 conservatively estimated to be approximately three acres. GMP will ensure that construction is
11 performed in accordance with a stormwater construction permit issued by the DEC Water
12 Quality Division, including adherence to the DEC Low Risk Site Handbook for Erosion
13 Prevention and Sediment Control, or a site-specific EPSC plan as required. As a result, the
14 Project will not cause unreasonable soil erosion or a reduction in the capacity of the land to hold
15 water so that a dangerous or unhealthy condition may result. See Exhibit GMP-TOU-3, at p. 20-
16 21.
17

18 **23. Q. 10 V.S.A. § 6086(a)(5) – Transportation: Will the Project cause unreasonable**
19 **congestion or unsafe conditions with respect to use of the highways, waterways, railways,**
20 **airports or airways, and other means of transportation existing or proposed?**

21 A. No. Any minor increases in traffic associated with construction equipment will
22 be limited to the period of project construction. Access to upgraded transmission lines and the
23 Lowell Substation will be unchanged. When construction is complete, traffic to the substation

1 will continue to be minimal, consisting primarily of periodic inspection and maintenance visits.
2 GMP will employ appropriate traffic control measures as needed, and will not perform any work
3 within the right of way of Vermont Route 100 or 100C without approval of the Vermont Agency
4 of Transportation (VTrans).

5

6 **24. Q. 10 V.S.A. § 6086(a)(6) – Education: Will the Project cause an unreasonable**
7 **burden on the ability of any municipality to provide educational services?**

8 A. The Project will not have an impact on educational services.

9

10 **25. Q. 10 V.S.A. § 6086(a)(7) – Government: Will the Project place an unreasonable**
11 **burden on the ability of local governments to provide municipal or governmental services?**

12 A. The Project will not require any additional municipal or governmental services.

13

14 **26. Q. 10 V.S.A. § 6086(a)(8) – Aesthetics: Will the Project components have an**
15 **undue adverse effect on the scenic or natural beauty of the area, or aesthetics?**

16 A. GMP relies on the Environmental Board’s “Quechee Lakes” decision, in which
17 the Board articulated a method for analysis of aesthetics and scenic and natural beauty. Quechee
18 Lakes Corporation, #3W0411-EB and 3W0439-EB (Jan. 13, 1986). The decision involves a
19 two-part test to determine whether a project will have an undue adverse impact on aesthetics.
20 The first step determines whether a project’s impacts on aesthetics will be adverse. A project’s
21 impact is adverse if its design is out of context or not in harmony with its surroundings. A
22 finding of no adverse impact makes it unnecessary to determine whether an impact would be
23 “undue.” If on the other hand the project is found to be adverse, further analysis is required to

1 determine whether the impact is “undue.” Such a finding could be made if the project satisfied
2 any of the following three criteria: 1) it violates a clear written community standard intended to
3 preserve the aesthetics or scenic beauty of the area; 2) it would offend the sensibilities of the
4 average person; or 3) if the applicant has not taken generally available mitigating steps to
5 improve the harmony of the project with its surroundings.

6 The Project involves the reconstruction of the existing GMP Lowell Substation, along
7 with the in-place reconstruction of approximately 19.6 miles of existing transmission lines in the
8 Towns of Lowell, Eden, Johnson, and Morristown. The line work consists of the installation of
9 approximately 390 pole structures, all within the existing alignments. In order to accommodate
10 the proposed larger conductors, structure types will change in many locations from crossarm to
11 vertical and H-Frame construction, resulting in the installation of taller poles. The reconstructed
12 lines will not require any additional tree clearing. Jeremy Owens of T.J. Boyle Associates, LLC
13 analyzed the potential aesthetic impacts of the proposed substation and line upgrades. The
14 results of the study are included in Exhibit GMP TOU-4. Mr. Owens concluded that the Project
15 will have minor adverse aesthetic impacts, based primarily on a moderate increase in average
16 pole heights, but that the impacts will not be undue. No additional landscape plantings have
17 been proposed for the Lowell Substation rebuild because the new substation would continue to
18 be well screened by existing vegetation for much of the surrounding area; because it will be built
19 on the lot adjacent to the current substation, it will not create a substantial increase in electrical
20 infrastructure visible from Route 100 or the surrounding area. See GMP TOU-4 at p. 10.

21
22
23

1 **27. Q. 10 V.S.A. § 6086(a)(8) - Will the Project have an undue adverse effect on**
2 **historic sites?**

3 **A.** No. NE ARC completed an ARA for each of the transmission line upgrades.
4 Along the B20 line between the Johnson and Lowell Substations, the ARA revealed 59
5 archeologically sensitive areas (ASAs). The ARA conducted along the B22 line in Morristown
6 documented 12 ASAs. NE ARC has begun Phase I surveys to identify any historic sites and
7 assess their significance. See CONFIDENTIAL Exhibit GMP TOU-1 (REDACTED);
8 CONFIDENTIAL Exhibit GMP TOU-2 (REDACTED); and **CONFIDENTIAL Exhibit GMP**
9 **TOU-7 (REDACTED)** (NE ARC's B22 ARA redacted). The confidential version of the B22
10 ARA, **CONFIDENTIAL Exhibit GMP TOU-7**, will be filed under seal with the Public Utility
11 Commission.

12 The Phase I investigation for the B20 line is largely complete. At least one site has been
13 identified along the B20 Line for which NE ARC will recommend Phase II testing to determine
14 significance. See CONFIDENTIAL Exhibit GMP TOU-2 (REDACTED). Results of all surveys
15 will be provided to the Vermont Division for Historic Preservation (DHP). Should the surveys
16 identify significant historic sites, GMP will employ measures to avoid or appropriately mitigate
17 any potential impacts based on recommendations of NE ARC and only with DHP approval.

18

19 **28. Q. 10 V.S.A. § 6086(a)(8) – Will the Project have an undue adverse effect on**
20 **rare and irreplaceable natural areas?**

21 **A.** No. VHB consulted the Vermont Natural Heritage Inventory database of known
22 rare and irreplaceable natural areas (RINA) in the Project area. VHB also used the NHI database
23 to identify natural community types that may be present in the region but not previously

1 identified. Based on database review and detailed field natural resource assessments, VHB
2 determined that there are no RINA in the Project areas. See Exhibit GMP TOU-3, at p. 22-24.

3

4 **29. Q. 10 V.S.A. § 6086(a)(8)(A) – Wildlife and Endangered Species: Will the**
5 **Project destroy or significantly imperil necessary wildlife habitat or any rare, threatened**
6 **or endangered (RTE) species?**

7 A. No. VHB concluded that there is no potential habitat for endangered plant species
8 at the Lowell Substation site. VHB conducted plant surveys along the B20 right of way during
9 the summers of 2017 and 2019, during which time RTE plants, including the state-Threatened
10 Green Mountain maidenhair fern (*Adiantum viridimontanum*), were observed. RTE plants were
11 delineated in the field, and field reviewed by the State Botanist. In cooperation with ANR staff,
12 techniques for avoiding RTE plant locations were developed, in addition to construction
13 practices designed to avoid impacts to RTE plants. Plant surveys and avoidance techniques
14 along the B20 line are described in detail in a memo prepared by VHB. Adherence to the
15 agreed-upon soil disturbance avoidance measures and pole removal practices will ensure that the
16 Project does not destroy or significantly imperil RTE plants. See Exhibit GMP TOU-3 p. 25-27.

17 VHB conducted plant surveys along the B22 right of way in 2019. No RTE plants were
18 identified. See Exhibit GMP TOU-3 p. 27, Appendix C.

19 A review of the B20 and B22 corridors, the Lowell Substation, and surrounding areas
20 found no potential for impact to necessary wildlife habitat, including deer wintering areas. See
21 Exhibit GMP TOU-3 p. 24-25.

22 VHB reviewed the entire Project for the potential presence of endangered animal species.
23 Based on this review, VHB determined the Study Area occurs within the range of the federally

1 threatened and Vermont-endangered northern long-eared bat (*Myotis septentrionalis*, “MYSE”).
2 There are no known occurrences of MYSE (including hibernacula) within one mile of the Project
3 area, and no additional tree clearing is proposed for the B20 and B22 rights of way. Therefore,
4 no further coordination related to MYSE is required. See Exhibit GMP TOU-3 p. 25-28.

5

6 **30. Q. 10 V.S.A. § 6086(9)(k) – Public Investments: Will the Project unnecessarily**
7 **or unreasonably endanger any public or quasi-public investment in the facility, service, or**
8 **lands, or materially jeopardize or interfere with the function, efficiency, or safety of, or the**
9 **public’s use or enjoyment of or access to the facility, service, or lands?**

10 **A.** No. Access to all substation and line facilities from public highways will be
11 unchanged, as will the frequency of access when construction is complete. GMP will not
12 perform any work within the right of way of Vermont Route 100 or 100C without approval of
13 the Vermont Agency of Transportation. The Vermont Department of Forests, Parks, and
14 Recreation (FPR) holds development and access rights to a parcel of land crossed by the line in
15 Eden. The line is located within an easement that predates FPR’s acquisition of its interests, and
16 the Project will have no impact on the public’s use of or access to the property.

17

18 **31. Q. Will there be any significant Project impacts related to the use of natural**
19 **resources or greenhouse gases?**

20 **A.** No. Detailed information on natural resource impacts is included in Exhibit GMP
21 TOU-3. Substation improvements will not involve any equipment containing sulfur hexafluoride
22 (SF₆) gas. Emissions from construction vehicles will be small in scale and limited to the
23 duration of Project construction.

1 **32. Q. Could you discuss the Project’s impacts relative to 10 V.S.A. § 1424a(d), 30**
2 **V.S.A. § 248(b)(8)?**

3 **A.** The Project is not located within the vicinity of any Outstanding Resource
4 Waters. See Exhibit GMP TOU-3, p. 7-8.

5

6 **33. Q. 30 V.S.A. § 248(b)(5) - Will the Project affect any “primary agricultural**
7 **soils” as defined by 10 V.S.A. § 6001?**

8 **A.** No. The substation expansion will take place in an area previously occupied by
9 an electrical substation. The negligible soil disturbance from pole removal and installation does
10 not reduce the capacity of the land to support agriculture, and no change in land cover or land
11 form from existing condition is proposed. See Exhibit GMP TOU-3, p. 28-32.

12

13 **34. Q. Does this conclude your testimony?**

14 **A.** Yes.