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**STATE OF VERMONT  
PUBLIC SERVICE BOARD**

**Petition of Green Mountain Power Corporation for a Certificate of Public Good, pursuant to 30 V.S.A. § 248(j), for authority to reconductor the Airport Tap, a radial tap on its 3314 transmission line to serve Airport Substation #79 located along Poor Farm Road in South Burlington** )  
Docket No. \_\_\_\_\_

**PREFILED TESTIMONY OF TERRY CECCHINI  
ON BEHALF OF  
GREEN MOUNTAIN POWER CORPORATION**

- 1. Q. Please state your name, occupation, and business address.
- A. My name is Terry Cecchini. I am a Professional Electrical Engineer (018-0004499) working as a Senior Engineer at Green Mountain Power Corporation (“Green Mountain Power” or “GMP”) with my office at 163 Acorn Lane, Colchester, Vermont.
- 2. Q. Have you testified previously before the Public Service Board?
- A. Yes, I have. I provided testimony in PSB Docket Nos. 7460, 7314, 6839, and 6860, relating to Certificate of Public Good (“CPG”) petitions for joint Green Mountain Power and VELCO upgrades, as well as in several proceedings involving Green Mountain Power petitions under Section 248(j), including in Dockets Nos. 6823, and 6647.
- 3. Q. Please describe your responsibilities in connection with GMP’s petition for a certificate of public good pursuant to 30 V.S.A. § 248(j) from the Vermont Public

1 Service Board (the “Board”) in connection with GMP’s proposed reconductoring of  
2 the 3314 transmission line tap (the “Airport Tap”) to the Airport Substation #79 (the  
3 “Project”).

4 A. I am the Project Engineer.

5 4. Q. Please generally describe the Project and why it is being proposed.

6 A. The Project is being undertaken to enhance electric service reliability. The existing  
7 conductor, installed in 1952, is now obsolete. The Project is needed because the  
8 available fault current has increased to unacceptable levels due to the additions of 115  
9 – 34.5 kV sources at Essex and Taft’s Corners. The fault current is sufficient to cause  
10 damaging annealing to the existing conductor. Outages have occurred on this line  
11 due to conductor splice failure and wire fatigue.

12 5. Q. Please describe the Airport Tap.

13 A. The Airport Tap is of cross arm construction design, is approximately 2,700 feet in  
14 length and consists of seven poles, six 50’ class 3 poles (43’ height above the ground)  
15 and one 45’ class 4 pole (38.5’ height above the ground). The line, located along  
16 Poor Farm Road in South Burlington, is a radial tap on the 3314 line that feeds  
17 Airport Substation #79 at 34.5 kV. This substation provides 4.16 kV distribution to  
18 the Vermont Air National Guard base at the Burlington International Airport and to  
19 residential customers at Country Club Estates. See GMP-TC Exhibits A, B and C  
20 attached hereto, USGS map showing the location of the Project, a site plan  
21 superimposed on an aerial photo, and photos of the existing line respectively. (Since

1 the Project will only result in a slight increase in the diameter of the line, the photos  
2 substantially represent the appearance after completion of the Project.)

3 6. Q. Please describe specifically GMP's plans to reductor the line.

4 A. GMP proposes to replace the existing #4 aluminum conductor, steel reinforced  
5 conductor (Swan-0.25 inch diameter) with 4/0 all aluminum alloy 6201 conductor  
6 conductor (Alliance-0.56 inch diameter), one of GMP's standard distribution  
7 conductors. One of GMP's mobile substations will be utilized to serve customer load  
8 during the reductoring.

9 7. Q. Is GMP planning any other improvements in conjunction with the Project?

10 A. Yes. The dead-end pole (Taglet 70791) adjacent to the Airport Switching Station is  
11 an aging 45' class 4 pole that GMP will replace with a more robust 50' class 3 pole at  
12 the same location in the existing right-of-way. The replacement pole will be of the  
13 same height and class as the other poles on the Airport Tap. In addition, a corner pole  
14 (Taglet 181427) with extensive woodpecker damage will be replaced with a pole of  
15 the same height in the same location. That pole will also be located in the existing  
16 right-of-way. Both poles will be replaced at the time of the reductoring to take  
17 advantage of the line outage required to complete the Project and to minimize any  
18 impact on customers. See GMP-TC Exhibit B and GMP-TC Exhibit C, photos 1 and  
19 6.

20 8. Q. Will the capacity of the line change after the Project is completed?

21 A. Yes. The existing conductor is rated at 140 amps or 8.4 MVA at 34.5 kV. The  
22 proposed conductor is rated at 395 amps or 23.5 MVA at 34.5 kV.

1 9. Q. Is the additional capacity currently needed?

2 A. No. Because the capacity of the existing conductor is 5 times greater than the  
3 capacity of the 1.5 MVA transformer at the Airport Substation, no additional capacity  
4 to serve current or anticipated demand is provided by the Project. The Project is only  
5 required to address the fault current issue.

6 10. Q. How much will the Project cost?

7 A. The Project is estimated to cost about \$120,000. These costs will be accounted for as  
8 a capital cost.

9 11. Q. What is the proposed time frame for completing the Project?

10 A. GMP proposes to commence work on the Project in the spring of 2011. The Project  
11 will be completed in less than one month.

12 12. Q. Please specifically address each of the § 248(b) criteria and describe how the Project  
13 complies with such criteria. Please identify in each paragraph number of your  
14 answers the specific criteria addressed.

15 A. Following is a listing of each of the § 248(b) criteria with a description in each  
16 numbered paragraph of how the Project complies with the criteria specified.

17 **Orderly Development of the Region**

18 [30 V.S.A. §248(b)(1)]  
19

20 13. Because the Project is necessitated to assure electric service reliability, it will not unduly  
21 interfere with the orderly development of the region, with due consideration having been given  
22 to the recommendations of the municipal and regional planning commissions and the municipal  
23 legislative bodies. Moreover, the Project will take place entirely within the existing right-of-way

1 resulting in the Project not impacting the land conservation measures contained in the plan of  
2 any affected municipality.

3 14. GMP provided notice of the Project to the City Council, City of South Burlington,  
4 Planning Commission, City of South Burlington and Chittenden County Regional Planning  
5 Commission by letter, dated November 23, 2010, a copy of which is included with GMP's filing  
6 with the Board. Neither Planning Commission provided comments.

7 15. Further, I, on behalf of GMP, contacted the planning commissions' staff, the president of  
8 the Country Club Estates Association and the Vermont Air National Guard and offered to answer  
9 any technical questions and respond to requests for presentations in connection with the Project.  
10 None of the foregoing requested any additional information or presentations.

11 **Need for Present and Future Demand for Service**  
12 **[30 V.S.A. §248(b)(2)]**  
13

14 16. As discussed above, the Project is necessitated by the need to provide electric service  
15 reliability because the existing line is obsolete and cannot accommodate the existing fault  
16 current. The Project is not needed to provide additional capacity, as discussed above.

17 Accordingly, energy efficiency measures or distributed generation, including but not limited to,  
18 those developed pursuant to 30 V.S.A. §§ 209(d), 218(c) and 218(b), would not be more cost  
19 effective.

20 17. In addition, the Project is not required for distributed utility planning ("DUP") under the  
21 Docket 6290 guidelines. Not only is the Project being proposed solely to address electric service  
22 reliability impacted by available fault current on an obsolete conductor, the projected capital cost  
23 is less than the \$2 million threshold and based on the *Form for Selection of Distributed Utility*

1 *Target Areas*, further distributed utility analysis is not required for this Project.

2 18. Further, since the reconductoring is unrelated to load, implementation of demand side  
3 management, generation or load response cannot avoid the need for the Project and none of those  
4 alternatives were considered. Therefore, the Project is consistent with the principles of least-cost  
5 planning.

6 **System Stability and Reliability**  
7 **[30 V.S.A. §248(b)(3)]**  
8

9 19. The Project will not adversely affect system stability and/or reliability. As discussed  
10 above, the Project will enhance system stability and reliability.

11 **Economic Benefit to the State**  
12 **[30 V.S.A. §248(b)(4)]**  
13

14 20. The Project's improvement of system stability and reliability will provide economic  
15 benefits to GMP customers located in the area served by Airport Substation #79, and, thus, will  
16 benefit the State. As the Board noted in *In Re: Northwest Vermont Reliability Project*, Docket  
17 No. 6860, Order of January 28, 2005 at 18 *[o]perating and maintaining a reliable electric*  
18 *transmission infrastructure and power supply system is vital to Vermont's economy and a 21<sup>st</sup>*  
19 *century society*. A more reliable transmission network enhances efforts to promote economic  
20 development and create jobs in Vermont. *Id.* at finding 559. The Project will also result in work  
21 being performed and jobs supporting the Project by various contractors and suppliers which will  
22 be of economic benefit to the State by providing some additional tax revenues with a minor  
23 impact on GMP's ratepayers.

24

1                                    **Aesthetics, Historical Sites, Air and Water Purity,**  
2                                    **the Natural Environment, and Public Health and Safety**  
3                                    **[30 V.S.A. §248(b)(5)]**  
4

5    21.     The Project will not have an undue adverse effect on aesthetics, historical sites, air and  
6    water purity, the natural environment, and the public health and safety. This finding is supported  
7    by the findings below, which are the criteria specified in 10 V.S.A. §§ 1424 a (d) and 6086 (a)  
8    (1) – (8) and (9)(k).

9                                    **Outstanding Resource Waters**  
10                                   **[10 V.S.A. §1424a(d)]**  
11

12    22.     No outstanding resource waters are located in the vicinity of the Project and, accordingly,  
13    it will not adversely affect any outstanding resource waters.

14                                   **Water and Air Pollution**  
15                                   **[10 V.S.A. §6086(a)(1)]**  
16

17    23.     The Project will not produce any emissions and any impacts from trucks and equipment  
18    during construction will be temporary and minimal. Accordingly, the Project will not result in  
19    any undue water or air pollution. The mobile substation which will be used to supply customers  
20    during construction will result in some noise. However, any impacts due to noise will not rise to  
21    the level of being adverse because: 1) the mobile substation will be located 150 feet from the  
22    nearest house, and 2) the mobile substation will only be utilized for one month during  
23    construction. Further, because of the Project's location near the Burlington International Airport,  
24    noise levels from arriving and departing airplanes are high, making any minimal noise produced  
25    by the mobile substation of little or no effect.

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

24. The location of the Project as shown in GMP-TC Exhibit A is not near any headwaters and will not have any undue adverse impact on any headwaters.

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

25. The Project will not result in the production of any wastes, and, accordingly, the Project will meet all applicable health and environmental conservation department regulations for the disposal of wastes, and will not involve the injection of waste materials or any harmful or toxic substances into ground water or wells.

**Water Conservation**  
[10 V.S.A. §6086(a)(1)(C)]

26. The Project will not utilize any water during or after construction and, accordingly, the criteria specified in 10 V.S.A. § 6086(a)(1)(C) relating to water conservation is inapplicable.

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

27. The dead-end pole (Taglet 70791) that will be replaced in conjunction with the Project is located within the floodway. However, because the pole is a replacement for an existing structure it will not further restrict or divert the flow of floodwaters and will not increase peak discharge. The corner pole (Taglet 181427) that will also be replaced is not in the floodway.

1

2

Streams

3

[10 V.S.A. §6086(a)(1)(E)]

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28. The dead-end pole (Taglet 70791) that will be replaced in conjunction with the Project is

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located a short distance south of Allen Brook and east of an unnamed tributary to Allen Brook.

7

The replacement pole is not located on the banks of either stream and will not impact the natural

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condition of the stream. The corner pole (Taglet 181427) that will also be replaced is not located

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near any stream. Accordingly, no streams will be adversely affected, nor will the Project

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endanger the health, safety or welfare of the public or of adjoining landowners.

11

Shorelines

12

[10 V.S.A. §6086(a)(1)(F)]

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29. Because of the Project's location as shown on GMP-TC Exhibit A, no shorelines will be

15

affected.

16

Wetlands

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[10 V.S.A. §6086(a)(1)(G)]

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30. The dead-end pole (Taglet 70791) that will be replaced in conjunction with the Project is

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located northwest of a Class II wetland. Since this is a replacement pole, no new disturbance will

21

be created. The corner pole (Taglet 181427) that will also be replaced is not located near any

22

Class II wetland. The Project work is to occur entirely within the existing right-of-way.

23

Accordingly, no wetlands will be impacted.

24

Sufficiency of Water and Burden on Existing Water Supply

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[10 V.S.A. §6086(a)(2) and (3)]

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27

31. Since the Project will not utilize any water, existing water supplies will not be affected

28

and the Project will not place a burden on any existing water supply.



1                                    **Scenic and Natural Beauty, Aesthetics, Historical Sites,**  
2                                    **and Rare and Irreplaceable Natural Areas**  
3                                    **[10 V.S.A. §6086(a)(8)]**  
4

5    36.    The Project will be located entirely within the existing right-of-way and the diameter of the  
6 conductor is only minimally being increased. See GMP-TC Exhibit C for photos of the existing  
7 right-of-way. Of the two poles being replaced during Project construction, only one pole is being  
8 replaced with a taller pole, and that pole will be 5 feet taller. Thus, the Project and related work  
9 will not have an undue effect on the scenic or natural beauty of the area, aesthetics, historical  
10 sites, or rare and irreplaceable natural areas.

11    37.    Because the changes are consistent with and in harmony with the developed and prior  
12 context of the area, they are not adverse. Even if determined to be minimally adverse, they are  
13 not undue given the significant benefits the Project will provide to electric service reliability.  
14 The overall societal benefits of the Project override any minimal visual impact. The Project does  
15 not violate a clear written community standard intended to preserve the aesthetics or scenic  
16 beauty of the area and will not offend the sensibilities of the average person. See *Quechee Lakes*  
17 *Corporation*, #3WO411-EB and 3WO439-EB, dated January 13, 1986.

18    38.    Because the physical impact of the Project is limited to a slight increase in the diameter  
19 of the conductor, the Project will not impact historic or archeological sites and will not impact  
20 any rare or irreplaceable natural areas. Also, the related replacement of two poles will not  
21 impact historic or archeological sites and will not impact any rare or irreplaceable natural areas  
22 since the poles are being replaced at the same location.  
23

1                                    **Necessary Wildlife Habitat and Endangered Species**

2                                    **[10 V.S.A. §6068(a)(8)(A)]**

3  
4    39.    As found above, the physical impact of the Project is limited to the slight increase in the  
5    diameter of the conductor. Accordingly, the Project will not impact, destroy or imperil necessary  
6    wildlife habitat or any endangered species.

7                                    **Development Affecting Public Investments**

8                                    **[10 V.S.A. §6068(a)(9)(K)]**

9  
10   40.    Because the Project is an upgrade at an existing facility consisting of the replacement of  
11    the existing obsolete conductor with a conductor needed to ensure electric service reliability, the  
12    Project will not unnecessarily or unreasonably endanger the public or quasi-public investment in  
13    the facilities listed in 10 V.S.A. § 6086(a)(9)(K), or materially jeopardize or interfere with the  
14    function, efficiency, or safety of, or the public's use or enjoyment of or access to such facilities.

15                                    **Compliance with Executive Order #52 – Agricultural Land**

16  
17   41.    Because of the Project's location in the existing right-of-way, it will have no effect on  
18    any prime agricultural soils.

19                                    **Least-Cost Integrated Resource Plan**

20                                    **[30 V.S.A. §248(b)(6)]**

21  
22   42.    The Project is consistent with the provisions of GMP's 2007 Integrated Resource Plan  
23    (IRP), as approved by the Board's Order in Docket No. 7319. The IRP at 40 provides that GMP  
24    will replace existing undersized conductors when a circuit is experiencing voltage or reliability  
25    issues. The Project is consistent with the IRP's focus on the provision of reliable electric service  
26    and the above stated goal. There will be little environmental impact from the Project as  
27    discussed above and below.

