STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6860

Petitions of Vermont Electric Power Company, Inc. (VELCO) and Green Mountain Power Corporation (GMP) for a certificate of public good, pursuant to 30 V.S.A. Section 248, authorizing VELCO to construct the so-called Northwest Vermont Reliability Project, said project to include: (1) upgrades at 12 existing VELCO and GMP substations located in Charlotte, Essex, Hartford, New Haven, North Ferrisburgh, Poultney, Shelburne, South Burlington, Vergennes, West Rutland, Williamstown, and Williston, Vermont; (2) the construction of a new 345 kV transmission line from West Rutland to New Haven; (3) the reconstruction of a portion of a 34.5 kV and 46 kV transmission line from New Haven to South Burlington; and (4) the reconductoring of a 115 kV transmission line from Williamstown to Barre, Vermont **AND** amendment to VELCO petition to provide for: (1) proposed modifications to the route of the line between New Haven and South Burlington, specifically in the City of Vergennes and the Towns of Ferrisburgh, Charlotte and Shelburne; (2) proposed changes to the substations located in Vergennes, Shelburne, Charlotte and South Burlington; and (3) proposed changes to pole heights.

REPLY BRIEF
OF PETITIONERS

VERMONT ELECTRIC POWER COMPANY, INC.
AND
GREEN MOUNTAIN POWER CORPORATION

DECEMBER 17, 2004

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I. INTRODUCTION

Vermont Electric Power Company, Inc. ("VELCO") and Green Mountain Power Corporation ("GMP") (collectively "Petitioners") respectfully submit this Reply Brief in response to the briefs and comments filed by other parties to this proceeding on November 24, 2004. Petitioners' November 24, 2004, Findings of Fact and Brief was comprehensive and addressed virtually all of the issues relating to the Project's compliance within Section 248 criteria. Petitioners will not re-address each of those issues in this Reply Brief. This Reply Brief will address the limited number of new issues raised by other parties and issues which deserve further comment in light of the comments filed by other parties.

Two principal areas that deserve additional discussion are aesthetics and the post-CPG review process. This Reply Brief addresses those issues in detail. The post-CPG discussion reflects comments of the parties, taking into account critical time frames for initiating and completing

construction of Project components. The most critical path item is the 345 kV upgrade, including the New Haven substation expansion, by summer 2006. To achieve that in-service deadline, VELCO must commence construction of the line by April 2005 and construction of the substation by June 2005. Accordingly, VELCO asks that the Board decide about certain route and design issues in its initial decision, so that final design can be completed as soon as possible. In the post-CPG section of this Reply Brief, Petitioners recommend that the Board adopt a five-week, or 35-day, default review period for final design compliance filings. This is a longer review period than initially proposed by Petitioners, but is workable.

Finally, this Reply Brief will also address testimony of witness Robert Blohm, which had previously been stricken but was allowed by order of the Board dated November 24, 2004.

Defined terms used herein shall have the meaning set forth in Petitioners' November 24, 2004 Findings and Brief.

II. RESPONSES TO NEW HAVEN AND CLF

New Haven and CLF filed briefs that addressed many of the same issues and arguments. For this reason, their briefs are addressed together.

New Haven Brief at pages 5-8: New Haven argues that, because the proposed 345 kV line produces adverse aesthetic impacts, it cannot be approved because VELCO has not provided a comprehensive evaluation of a feasible 115 kV alternative. The argument is based on the *Halnon* case[1] and is premised on the contention that a 115 kV line in the same corridor as is proposed for the 345 kV line, together with a 16-mile 115 kV line added to the existing Granite to Middlesex corridor, constitutes a "generally available" mitigation. New Haven also incorrectly asserts that no substation improvements would be needed were the 345 kV line to be replaced by a 115 kV line alternative.

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[1] In re: Tom Halnon, P.S.B. CPG NM-25, Mar. 15, 2001, *aff'd sub nom*, *In re: Halnon*, 174 Vt. 514, 811 A.2d 161 (2002).

VELCO Response: New Haven's argument is unsupported, wrong and inherently illogical. Finding No. 164 of the Petitioners' Brief addresses transmission alternatives to the 345 kV line. VELCO submitted a Transmission Alternatives Study as Exhibit VELCO Planning-8. Three transmission alternatives were studied, including replacement of the 345 kV line with a 115 kV option. As already stated in Finding No. 164, while it is possible that the current proposed 345 kV line from West Rutland to New Haven could be replaced by a second 115 kV line, an additional 16-mile 115 kV line from Granite to Middlesex would need to be added in this scenario to achieve comparable reliability. In addition, the 115 kV alternative has greater losses, and costs roughly $3 million more. It is not a least cost alternative. As the DPS notes in its brief at page 84, least cost planning includes the common sense notion of considering whether the design of a project will create additional costs and impacts, should the upgrades be needed, that could have been avoided through the design of the current project. The Board has on numerous occasions approved projects under Section 248 that are sized to address potential future needs. *See* Panel pf. at 39-41; Exhibit VELCO Planning-8, at II; Exhibit DPS VELCO Cross 15-16; Smith pf. at 18; DPS brief at 84.

This option also has additional environmental and aesthetic impacts because the right-of-way in the Granite to Middlesex corridor would likely need to be widened, and/or some present 34.5 kV lines would have to be moved or replaced. Planning Panel pf. at 41.

Moreover, quite a bit of additional substation work would be required if a 115 kV alternative were to replace the 345 kV line. While the 345 kV station additions at New Haven would not be required if the 345 kV line were replaced with 115 kV, the 115 kV alternative will necessitate a new 6-breaker ring station at New Haven, as well as a new 6-breaker ring at Middlebury and a new 4-breaker ring at Middlesex (for the 16 mile second Granite to Middlesex 115 kV line). These substation changes/additions are included in the description of the 115 kV alternative on page 8 of Exhibit VELCO Planning-8, and are also included in Table 1 of the same exhibit.

Lastly, and perhaps most importantly, the 115 kV proposal also fails to provide a platform for future upgrades to meet load levels above 1200 MW when they are needed. *Id.*

The 345 kV line has been sequenced very prudently as a stepping stone to future upgrades, if and when they are needed. As the Board Chairman himself noted, it's a waste of resources to build a 115 kV line if we know it is likely or possible that it will be replaced by a higher voltage 345 kV line before its 30-40 year depreciable life has been realized. Tr. 2/17/04 Vol II at 129 (Dworkin). The NRP, with the 345 kV upgrade between West Rutland and New Haven, was developed in the context of a longer range plan, which is prudent. Tr. 2/17/04 Vol. 11, at 129 (Kowalski). As Mr. Kowalski of ISO-NE noted, and Chairman Dworkin described during the hearings, the scenario of building a 115 kV line with a useful life of 30-40 years, only to tear it down in 10-20 years, is short-sighted and exactly what we want to avoid:

> *"[Y]ou don't want to develop a plan that's too shortsighted and then you build to that only to realize that next year you need to tear down what you've built, which then may present reliability problems in itself, and then redo it with what you should have done in the first place.*
>
> *This project has been sequenced very prudently so that it is a stepping stone into the future. And it doesn't involve a lot of de-construction to get there. It's a good step, it has a good foundation for what needs to be done next unless some other alternative resource development does happen."*

Tr. 2/17/04 Vol. II, at 129-130 (Kowalski).

In summary, the two line 115 kV alternative to the 345 kV upgrade is not a reasonable, generally available alternative.

No party introduced testimony or evidence contradicting the VELCO testimony and evidence concerning the shortcomings associated with the 115 kV alternative.

New Haven Brief at page 20: New Haven argues that a CPG cannot be issued unless and until ANR files evidence and recommendations concerning 248(b)(5) criteria and until parties have had an opportunity to cross-examine and respond.

VELCO Response: Section 248(a)(4)(E) provides, "The [ANR] shall appear as a party in any proceedings held under this subsection, shall provide evidence and recommendations

concerning any findings to be made under (b)(5) of this section, and may provide evidence and recommendations concerning any other matters to be determined by the board in such a proceeding." ANR witnesses submitted prefiled testimony, were cross examined, and ANR filed a brief with findings and recommendations on November 24, 2004.

New Haven Brief at page 90: Citing a VELCO discovery response (Exhibit CLF PLC-4 (IR CLF2-VELCO-59)), New Haven claims at page 90 of its brief that VELCO "disingenuously suggests" that it is prohibited from participating in generation because of provisions of its Articles of Association.

VELCO Response: VELCO did no such thing. The question asked what obstacles there were, and VELCO responded that it would probably have to amend its Articles. VELCO did not suggest that there would be any particular difficulty in doing so. VELCO evaluated the cost effectiveness of generation as an alternative, and the uncontested evidence showed that not only would generation be more expensive on a direct cost and a societal cost basis, it would not receive regional cost support, and there are no currently known plans to build generation in northwest Vermont. Petitioners' Findings and Brief, Findings Nos. 168-174, 190-212. Furthermore, New Haven's own expert, Robert Blohm, testified that it is unlikely that generation will be built in Northwest Vermont. Tr. 12/3/04, Vol. II at 31-33 (Blohm). New Haven and CLF failed to introduce any independent analysis or evidence about the feasibility or cost effectiveness of generation as an alternative to the Project.

New Haven Brief at page 101/ CLF Brief at page 76: New Haven and CLF contend that VELCO should have sought a separate LICAP zone for Northwest Vermont.

VELCO Response: Whatever the merits of a separate Northwest zone, any proposal that seeks non-postage-stamp transmission pricing in Vermont should come from a public body, such as the Public Service Board or the Department, not from VELCO. Neither New Haven

nor CLF offered testimony or evidence analyzing the merits of such a proposal. Importantly, even if such a proposal were adopted, it would not avoid the need for the Project.

New Haven Brief at page 104: New Haven claims that VELCO planned the NRP in isolation from CVPS and GMP.

VELCO Response: This claim is untrue and completely unsupported. GMP is a co-petitioner and as such was obviously involved with the planning of the NRP. As stated in Finding No. 101 of Petitioners' Findings and Brief, engineers from VELCO, GMP, CVPS, other Vermont utilities, and the DPS, have been participating in a group referred to as the Vermont Utility Planning Group since December 1996. Finally, representatives of both GMP and CVPS are on the VELCO Board of Directors, where the project was discussed numerous times over the years.

CLF Brief at page 3: CLF claims that the "unquantified benefits" of the NRP have not been shown to exceed its societal costs. Specifically, CLF seems to argue that the evidence regarding the cost effectiveness of an electricity utility project are not known until the potential costs of unreliable electric service are quantified.

VELCO Response: This contention has no basis in statutory or case law in Vermont. It's also, frankly, absurd. The benefits of reliable electric service, not all of which could ever be easily quantified, range from avoided economic consequences associated with power disturbances and outages to homes and businesses in Vermont, to avoided public health and safety risks that are presented when lights, water, heat and electricity that serve necessary medical devices are lost. Representatives from the business, tourism and health community have provided testimony or comments to this Board that reliable electric service is essential to the people and businesses of the state. See Findings Nos. 233-256; 258-260.

The Alternatives Report prepared by LaCapra compared the societal costs and benefits of the Project to the alternatives evaluated in accordance with the least cost planning standards adopted by this Board, including the externalities adjustments approved and utilized by the Board in Docket No. 5980. VELCO Petitioners' Findings Nos. 190-231. One unquantified benefit of the NRP is the fact that more than 95% of the costs will be socialized throughout New England, which is a great financial benefit to Vermont and its residents. The alternatives would not receive this cost support.

CLF Brief at pages 9 and 16: CLF claims that VELCO did not analyze what non-transmission resources could meet the N–1 or N–2 criteria, only what non-transmission resources could meet the resource adequacy criterion.

VELCO Response: This is not correct. The LaCapra Alternative Resource Analysis was developed to study potential non-transmission alternatives to the NRP and was conducted using direct application of the resource adequacy standard. After the ARCs were created, however, all of them were reviewed to make certain that they met N-2 criteria. Therefore, while the LaCapra Analysis did not directly apply the N-2 standard to generate the ARCs, all of the ARCs studied by LaCapra were compared by VELCO against the N-2 criterion to confirm reliability would be met. A memo from Cleveland Richards to Hantz Presume and Richard Hinners on 2/21/03, included in the record of this proceeding as Exhibit CLF-VELCO-Cross 13, clearly describes this undertaking.

CLF Brief at page 10: CLF claims that it is unreasonable for VELCO's Critical Load Study to assume that none of the local combustion units in northwest Vermont are available and are, instead, held in reserve for the loss of McNeil. CLF asserts that this is tantamount to using an N–3 standard.

VELCO Response: The generation availability assumptions used in the Critical Load Study (discussed at pages 18-21 of the Planning Panel's prefiled testimony and at pages 8-9 of the Critical Load Study, Exhibit VELCO Planning-6), are consistent with the methodology required under NEPOOL Planning Procedure No. 3 ("PP-3") and NPCC Document A-2. Section 3.0 of PP-3, and Section 5.0 of Document A-2, provide in pertinent part:

> "With due allowance for generator maintenance and forced outages, design studies will assume power flow conditions with applicable transfers, load and **resource** conditions that reasonably stress the system.
>
> Transmission transfer capabilities will be based on the load and resource conditions expected to exist for the period under study and shall be determined in accordance with Section 4.1 for normal transfers, and Section 4.2 for **emergency** transfers."

Section 3.0 of PP-3, Exhibit VELCO Planning -9; Section 5.0 of NPCC Document A-2, Exhibit VELCO Planning-10. ISO-NE engineer, Richard Kowalski, testified that these standards require transmission planners to look at historic dispatch and outage rates of generation in a particular area and then model the aggregate amount of generation as being unavailable before the N-2 standard is applied. Tr. 2/17/04 Vol. II, at 88 (Kowalski).

The assumptions VELCO used for generation resource availability are consistent with these standards and are the same assumptions used for other NEPOOL planning studies submitted by VELCO. VELCO assumed both McNeil and Highgate in service at their rated capabilities. Other combustion units in Northwest Vermont, totaling approximately 35 MW or less, are a selection of trash burning, oil and diesel units. The combustion turbines are not base-load units, they are peaking units. These units can run only a limited number of hours per year due to emissions requirements, are showing signs of aging, and do not always run when called upon. As a result, VELCO did not model these units as available. *See* Exhibit VELCO Planning-6, at 7-9.

Stephen Whitely, ISO-NE's Chief Operating Officer, also explained why the combustion units in Northwest Vermont are not considered a reliable resource for planning purposes:

> *"One of the problems we have in Vermont, is we are exposed to a number of outages, contingencies we call them, where it could be of long duration. Like the PV-20 outage. The Highgate outage. They don't make spare parts any more. It could take months.*
>
> *So you're sitting there with a very weakened system, having to sustain hour after hour after hour of operation at high summer peak type load levels or winter peak type load levels. And you're having to run these [peaking] unit – the existing units there are very, very old and not in good shape. And even if you had new peaking type units, you're running those in base load mode of operation which was not the best way to be running those. So it does pose a lot of problems. You have a very unique situation here in northwest Vermont."*

TR 2/17/04 Vol. II, at 41-42 (Whitley).

CLF Brief at page 19-20: CLF asserts that new generation in Vermont would be more efficient than those in southern New England. CLF also asserts that the NRP "will only provide access to the glut of more expensive (gas units)" in southern New England.

VELCO Response: These claims are illogical, unsupported and contrary to the evidence in this case. Within the last several years, approximately 10,000 MW of new generation has been built in New England. According to the regional System Operator, ISO-NE: "It's not likely that we are going to get a lot more." Tr. 2/17/04 Vol. II, at 134 (Kowalski). Mr. Whitley, ISO-NE's Chief Operating Officer, testified that with 34% reserves in generating capacity in New England, it's not likely that alternative market solutions will come forward. *Id.* at 109 (Whitley). CLF's and New Haven's witness, Mr. Blohm, testified in agreement to that point. Tr. 12/3/04 Vol. II, at 33-36 (Blohm). Furthermore, to the extent that the 10,000 MW of new generation in New England is seen by CLF as a "glut" of new energy, its existence should logically translate into less expensive, not more expensive, power. CLF offered absolutely no evidence to support its irrational claims.

CLF Brief at pages 35-36: CLF findings 71 and 72, at pages 35-36, claim that the DSM component of ARC 5 would by itself defer the need for the 345 kV line.

VELCO Response: This claim is based solely upon testimony of Mr. Paul Chernick, and it is completely contradicted by testimony of LaCapra and Optimal Energy, the experts who conducted the analysis of the DSM potential savings reflected in ARC 5. *See* Petitioners' Findings Nos. 175-189. Also, as already discussed in Finding No. 185, Mr. Chernick admitted that he had conducted absolutely no analysis nor did he have any basis for the claim.

CLF Brief re alternative resources: CLF asserts in several places in its brief that VELCO did not consider alternative resources to the 115 kV line.

VELCO Response: Mr. Sinclair cross-examined Mr. Montalvo on this issue at the February 12, 2004 Hearings. The 115 kV line was included in each ARC because the reliability function of that upgrade is to provide post-contingency coverage for a line outage and, once the 345 kV line is built, to allow full utilization of that line. Tr. 2/12/04 Vol. II, at 26-27 (Montalvo). Mr. Montalvo also testified that some 75 MW of generation electrically located at the Queen City substation would be required to functionally replace the 115 kV line. This is not viable due to insufficient space at that location, and the implementation obstacles discussed at pages 78-84 of the LaCapra Report, Exhibit VELCO MDM-2. Tr. 2/12/04, at 27 (Montalvo).

III. RESPONSES CONCERNING AESTHETICS IMPACTS & MITIGATION

Scenic or Natural Beauty of the Area, Aesthetics

[10 V.S.A. 6086(a)(8)]

West Rutland to New Haven

In regard to the 345 kV transmission line (including the West Rutland and New Haven substations), the required construction schedule developed by VELCO will have little or no time allowance to accommodate route and design changes. Testimony in this docket has demonstrated that there is a compelling and immediate need for the 345 kV line.[2] Tech. Panel Reb. pf. at 3-6. In order to complete construction of the 345 kV line by the summer of 2006, VELCO must complete final line design, secure financing and order equipment early in the winter of 2005. There cannot be any significant alterations to the design or route of the 345 kV line after the Board issues a final CPG on January 14, 2005. Therefore, because a few disagreements between the Parties continue to exist as to the route and design of the 345 kV transmission line, it is critical that the Board determine in its final order the specific route and design of the components of the 345 kV line. This will provide certainty for pre-construction planning, especially in the locations where there is currently disagreement. The areas of disagreement where a prompt resolution is required are noted below.

Whipple Hollow Road (Mile 0.0 to 5.0)

The Department of Public Service recommends a single pole configuration (naturally weathering corten steel) to reduce the clearing for the corridor and the subsequent extent of the cut down the hill and selective clearing and some additional plantings where the buffer is thin to allow as much buffer to remain (particularly near pole structures). As a separate option, the DPS suggests reconstructing the existing 115kV as single pole line. 11/24/04 DPS Findings of Fact, Finding 254.

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[2] There was testimony in the Design Detail hearing that there is flexibility to deal with aesthetic mitigation issues during the post-CPG process. This is true with regard to the 115 kV line, where there has been the greatest dispute in regard to aesthetics. This flexibility is especially necessary in complex areas like Ferry Road. However, the same flexibility does not exist with the 345 kV line, given extraordinary need for that component and the short amount of time available to complete construction.

VELCO Response: Constructing the 345 kV line in a single pole configuration would not be a reasonable mitigation alternative because it is more costly and the proposed H-frame construction will not have an undue adverse impact on aesthetics. A single pole configuration is estimated to be twice the cost of the H-frame configuration. DPS-Cross-52. Furthermore, Whipple Hollow Road is a lightly traveled road where very few people would experience the line and is 5850 feet from the line. VELCO Exhibit Rebuttal TJB 1-1. VELCO's recommendation of selective clearing and right of way management at locations where the cross slope is greater than 35% is adequate. Additionally, the transmission line will be constructed with non-specular conductors. 11/24/04 VELCO Findings of Fact, Finding 423 & 424.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Whipple Hollow Road Crossing (Mile 5.5 to 6.6)

The DPS recommends setting the poles back from the Whipple Hollow Road crossing where currently a structure sits right next to the road; creating a short hedgerow or using street type plantings to "plug" the road crossing on either side; and providing additional screening for the substation, perhaps along the access road to the facility. 11/24/04 DPS Findings of Fact, Finding 255.

VELCO Response: Unfortunately, the design and construction of such a recommendation is not as simple as the DPS suggests. "Setting the poles back" from a road crossing, to the extent that this recommendation includes the relocation of the existing 115 kV line, would require VELCO to expend substantial time, effort and money. Requiring VELCO to move existing 115 kV poles would in essence be to require reconstruction of the existing line and, thus, the cost would be similar to that of reconstruction. VELCO cannot "set the poles back;" it must set new poles and remove the existing ones. Further changes to the line would, of course, be required due to the change in pole spacing. VELCO has estimated that

the cost of constructing 115 kV line is $280,000 per mile. Dunn Surr. pf. at 5. This estimate does not include the cost of removing the existing line. Like undergrounding, the relocation of any existing line should only be considered in extraordinary circumstances where the aesthetic benefits are substantial and there is no other alternative that satisfies the Quechee Test. In this area, there is another lower cost alternative that will satisfy the Quechee Test. VELCO has agreed to locate the 345 kV structure out of the meadow to the south, with an 800-foot span to the next 345 kV structure in the cedars on the hillside to the north. The DPS has suggested planting hedgerows along the roadside. This is not a preferred mitigation alternative in this location because the line runs along an open field with existing views. The screening of these views would worsen the impact of the line on the aesthetics. Vissering Surr. pf. at 3-4; Tr. 11/9/04 Vol. II, at 85, 110-11 (Raphael). VELCO has proposed to plant cedars in the right-of-way to minimize exposure of the hillside 345 kV structure. Furthermore, VELCO will work with DPS to develop additional mitigation measures, including for the substation, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. 11/24/04 VELCO Findings of Fact, Finding 427.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Otter Creek Crossing at Champlain Street/Route 73 (Mile 12.1)

The DPS suggests setting existing and proposed poles back from the road to the north; that VELCO should create a short hedgerow as well as river bank plantings derivative of surrounding species on Otter Creek in the vicinity of the "cut." According to the DPS, the relocation of structure 145, shown as a potential relocation by Mr. Boyle, is important to achieving adequate mitigation. 11/24/04 DPS Findings of Fact, Findings 256.

VELCO Response: VELCO recommends matching structures on the south side of the creek and spanning to the first hedgerow north of Route 73. Because this is a location where the

circumstances warrant it, the 115 kV structure would be relocated to the same hedgerow. In regard to the planting suggested by the DPS, VELCO agrees to work with the DPS to develop additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. 11/24/04 VELCO Findings of Fact, Finding 433.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Arnold District Road (Mile 13.8)

The DPS recommends ensuring that existing and proposed poles are relocated/located back from the roadside and the cut descending from the north is screened with hedgerows. DPS suggests street tree planting at the fenceline. The plantings should be large tree plantings (not apple trees) continued to the north on both sides of the road, for approximately another 150 to 200 feet. 11/24/04 DPS Findings of Fact, Finding 257.

VELCO Response: Unless there is an absence of other mitigation alternatives, it is not a reasonable mitigation alternative to relocate transmission structures that have existed in the same location for years. Therefore, it is unreasonable to relocate the 115 kV structure back from the roadside. Instead, VELCO suggests matching the 345 kV structure to the 115 kV structure south of the road. A span of 700 feet or longer would lead to the next structure north of the road. In regard to the planting suggested by the DPS, VELCO agrees to work with the DPS to develop and adopt these additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. 11/24/04 VELCO Findings of Fact, Finding 437.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Cram Road (Mile 15.7)

The Addison County Regional Planning Commission suggests retaining sufficient woodlands on either side of corridor, keeping pole heights as low as possible and back from the road, and leaving small trees along the road (or plant if none exist). It also proposes feathering on the hill (both 115 and 345) and planting on hill (evergreen and deciduous). ACRPC-JV-10, at 3.

VELCO Response: Unless there is an absence of other mitigation alternatives, it is not a reasonable mitigation alternative to relocate transmission structures that have existed in the same location for years. Therefore, it is unreasonable to relocate the 115 kV structure back from the roadside. The planting and clearing recommendations of ACRPC are generally reasonable. VELCO will work with ACRPC to develop and adopt these additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Leicester-Whiting Road (Mile 16.2 to 16.7)

DPS recommends planting a section of hedgerow adjacent to the corridor crossing and trees lining the road; screening of the side by side pole assemblies; and screening either at the poles to soften their presence or off site with permission from landowners. The DPS also suggests two alternatives: 1) using columnar trees or 2) moving the distribution poles off the road to allow for full street trees. Finally, DPS proposes that street tree planting should be extended further to the west. 11/24/04 DPS Findings of Fact, Finding 258.

ACRPC suggests undergrounding the distribution lines; making the poles as low as possible; feathering on the hilltop and hillside; planting of white pines and other evergreens outside the right-of-way to screen poles to angle structure; and roadside shade trees. Exhibit ACRPC-JV-10, at 5.

VELCO Response: Undergrounding the distribution line in this area is not a reasonable mitigation alternative based on its cost. See Dunn/Harr DD pf. at 4. The DPS suggests planting hedgerows along the roadside. This is not a preferred mitigation alternative in this location because the line runs along an open field with existing views. The screening of these views would worsen the impact of the line on the aesthetics. Vissering Surr. pf. at 3-4; Tr. 11/9/04, Vol. II, at 85 & 110-11 (Raphael). However, in regard to the other mitigation alternatives suggested by the DPS and ACRPC, VELCO will work with the DPS and ACRPC to develop and adopt these additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Bullock Road (Mile 16.8)

ACRPC recommends keeping poles low and away from roadside, modeling the new plantings after the existing hedgerows, planting outside the ROW, and planting cranberry viburnums on the north side of the road. ACRPC-JV-10, at 7.

VELCO Response: Unless there is an absence of other mitigation alternatives, it is not a reasonable mitigation alternative to relocate exiting transmission structures that have been a part of the landscape for decades. As to the other recommendations, VELCO will work with ACRPC to develop and adopt these other additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. However, ACRPC suggests planting outside the VELCO ROW to screen the proposed transmission line. VELCO should not plant in open agricultural fields without first obtaining permission from the farmer that utilizes those fields. Boyle Reb. pf. at 5 & 8.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Route 7 and West Salisbury Road (Mile 18.0 to 20.0)

DPS suggests relocating both lines through this area so that they are closer to the edge of the open area along the treeline or through patches of woodlands. Any tangent structures could be located to the north of W. Salisbury Road and screened using willow type plantings. This relocation option includes poles 207 to 226. 11/24/04 DPS Finding of Fact, Finding 259.

South of the intersection, ACRPC suggests matching and reducing the size of the transmission poles, as well as planting roadside shade trees outside of the right-of-way along Route 7 and using groups of softwood or hedgerow to screen structures. At the crossing, ACRPC recommends undergrounding the existing and proposed line. If that is not possible, ACRPC suggests undergrounding the 46 kV transmission line. Further, ACRPC proposes lowest possible pole heights (including the 115 kV); plantings outside the right-of-way; and roadside shade trees along W. Salisbury Road or evergreen grouping at the right-of-way edge. ACRPC believes VELCO should utilize swamp white oak along Route 7. ACRPC-JV-11, at 4.

VELCO Response: Given the additional cost of relocating (or burying) the 115 kV line as the DPS and ACRPC suggest, such a mitigation alternative is not reasonable. See Dunn/Harr DD pf. at 4; Dunn Surr. pf. at 5. The same is true in regard to undergrounding the 345 kV line. Boers Surr. pf. at 3; Williams Surr. pf. at 3-4. Additionally, the OMYA 46 kV transmission line should only be removed if OMYA consents to its removal. The cost of undergrounding the OMYA line has been estimated to be $430,000. Tr. 11/8/04 Vol. I, at 38 (Dunn). VELCO will work with ACRPC and DPS to develop and adopt the other additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. However, ACRPC suggests planting outside the VELCO right-of-way to screen the proposed transmission line. VELCO should not plant in open agricultural fields without first obtaining permission from the farmer. Boyle Reb. pf. at 5 & 8.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Kelly Cross Road (Mile 20.5 to 20.9)

DPS suggests retaining the existing hedgerow at the school, extending it and adding evergreens; adding extensive new screening and hedgerow plantings both along the road to "plug" it and adjacent to the residences. 11/24/04 DPS Findings of Fact, Finding 260.

ACRPC recommends minimum height poles; an evergreen screen on school property (white pine in groups of twelve); leaving large trees under the proposed 345 kV; and supplementing the cedar hedge with evergreen. ACRPC-JV-11, at 6.

VELCO Response: VELCO agrees to extend the existing hedgerow at the school by adding evergreens. Furthermore, VELCO agrees to work with ACRPC, DPS and the adjacent landowners to develop and adopt additional effective mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project.

Middle Road

ACRPC proposes allowing trees to grow on the western edge of the right-of-way. ACRPC-JV-11, at 8.

VELCO Response: VELCO agrees to allow the trees on the western edge of the right-of-way to grow, provided that such measures are consistent with good utility practice.

Three Mile Bridge Road (Mile 24.0)

ACRPC recommends roadside plantings of deciduous trees outside of the right-of-way on the north side of Three Mile Road; groupings of white pine planted along west side of corridor; large trees planted at the south edge of road along the boundaries of the right-of-way; and masses of wetland plantings along south side of brook.

VELCO Response: VELCO will work with ACRPC to develop and adopt these additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. However, ACRPC suggests planting outside the VELCO right-of-way to screen the proposed transmission line. VELCO should not plant in open agricultural fields without first obtaining permission from the farmer that utilizes those fields. Boyle Reb. pf. at 5 & 8.

Route 125/Route 7 Crossing (Mile 24.6 to 24.9)

DPS states that, with two qualifications, it appears that the mitigation for this area offered in VELCO's design details testimony is sufficient to avoid an undue adverse impact. The first qualification is the need for a more panoramic view and simulation of Route 125 heading both west and east in order to fully ascertain the effectiveness of this mitigation approach. The second qualification is that VELCO should consider setting the riser structure further back from the road to reduce its prominence and visibility. 11/24/04 DPS Findings of Fact, Findings 261.

In regard to Route 7, ACRPC has recommended: undergrounding the new transmission line or, if that is unacceptable, it proposes the undergrounding of distribution and other lower voltage lines, including areas not addressed by Mr. Boyle. Further, ACRPC suggests planting trees such as swamp white or bur oak, instead of willow or green ash, and evergreen trees along the east edge of the road just south of the crossing. In regard to Route 125, ACRPC suggests: burying the 46kV transmission line and the consolidation of numerous power lines. If the CVPS 46kV line between Ossie Road (Route 116) and Quarry Road is no longer needed, ACRPC proposes removing it. ACRPC asserts evergreen tree plantings east of the right-of-way on both sides of the road are needed in addition to what has been proposed and that evergreen trees east of the drive and behind the small monument along the road are also needed. Vissering Surr. pf, at 5-6.

VELCO Response: It is not necessary for VELCO to provide more simulations in order to determine if the project will have an undue adverse impact on aesthetics. Tr. 9/9/04 Vol. II, at 119-20 (Raphael). However, VELCO will work with the DPS and ACRPC to relocate the

riser pole further away from the road. Undergrounding of the 46 kV line is also not a reasonable mitigation alternative because it will not have a substantial impact on aesthetics and would be very costly. See Dunn/Harr DD pf. at 4. Further, undergrounding of distribution lines is not necessary for adequate mitigation. VELCO Exhibit TJB DD-2, Section 2 at 2. VELCO agrees to work with ACRPC and DPS to develop and adopt additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Cady Road (Mile 25.5)

ACRPC recommends using the north side for planting (in fields) and matching pines on other side. Vissering Surr. pf, at 6.

VELCO Response: VELCO proposes to add plantings out of the cropland on the north side (in the approach to the wetland) to break up the landscape with islands of vegetation, and shade trees would be added to the road right-of-way on both sides. However, ACRPC suggests planting outside the VELCO right-of-way to screen the proposed transmission line. VELCO should not plant in open agricultural fields without first obtaining permission from the farmer. Boyle Reb. pf. at 5 & 8; 11/24/04 VELCO Findings of Fact, Finding 476.

Quarry Road (Mile 27.8 to 28.0)

ACRPC suggests additional evergreen groupings to the north to screen the angle structure and white pine or mixed evergreens planted around periphery of the substation and along east side of corridor. Vissering Surr. pf. at 6.

VELCO Response: VELCO will work with ACRPC to develop and adopt additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project.

Painter Road Crossing (Mile 28.9)

DPS recommends matching poles, keeping pole structures set back from crossings, creating hedgerow and/or evergreen "plugs" at the crossings and setting up some street tree and possibly hedgerow plantings and individual screens at particular properties. The DPS also states the Painter Road crossing requires hedgerows or evergreen plugs. 11/24/04 DPS Findings of Fact, Finding 262.

VELCO Response: Unless there is an absence of other mitigation alternatives, it is not a reasonable mitigation alternative to relocate transmission structures that have existed in the same location for years. However, VELCO has agreed to match the spans and poles of the existing 115 kV line. Furthermore, because much of the existing growth along Painter Rd. is low growing, there is a strong probability that much of it will be retained. If this is the case, there will not be a need for a hedgerow. VELCO will work with the DPS to develop and adopt additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. 11/24/04 VELCO Findings of Fact, Finding 480.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Halpin Road (Mile 29.9 to 30.4)

DPS recommends matching poles, keeping pole structures set back from crossings and creating hedgerow and/or evergreen "plugs" at the crossings. DPS also recommends that the existing hedgerow should be reinforced near to Halpin Road just south of the town line between New Haven and Middlebury. DPS suggests planting hedgerows along driveways and in back yards of residences. 11/24/04 DPS Findings of Fact, Finding 262.

VELCO Response: Unless there is an absence of other mitigation alternatives, it is not a reasonable mitigation alternative to relocate transmission structures that have existed in the same location for years. However, VELCO has agreed to match the spans and poles of the existing 115 kV line. VELCO will work with the DPS to develop and adopt additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. 11/24/04 VELCO Findings of Fact, Findings 484 & 485.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

River Road (Mile 30.4 to 31.1)

DPS recommends matching poles, keeping pole structures set back from crossings, and creating hedgerow and/or evergreen "plugs" at the crossings. DPS suggests street tree plantings outside the right-of-way and a hedgerow along the north side of River Road for .2 to .3 miles. 11/24/04 DPS Findings of Fact, Finding 262.

ACRPC recommends matching poles and having the homeowners decide what mitigation is appropriate near their houses. Vissering Surr. pf. at 7.

VELCO Response: Unless there is an absence of other mitigation alternatives, it is not a reasonable mitigation alternative to relocate transmission structures that have existed in the same location for years. Therefore, it is unreasonable to relocate the 115 kV structure back from the roadside. VELCO will work with ACRPC, DPS and the landowners to develop and adopt additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. However, DPS suggests planting outside the VELCO right-of-way to screen the proposed transmission line. VELCO should not plant in open agricultural fields without first obtaining permission from the farmer. Boyle Reb. pf. at 5 & 8. Additionally, the DPS suggests planting hedgerows along the roadside. This is not a preferred mitigation alternative in this location because the

line runs along an open field with existing views. The screening of these views would worsen the impact of the line on the aesthetics. Vissering Surr. pf. at 3-4; Tr. 11/9/04 Vol. II, at 85, 110-11 (Raphael).

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Hunt Road (Mile 31.1 to 32.5)

DPS proposes screening along individual properties in the Hunt Road vicinity. The DPS states that a potential mitigation option for this entire section would be to use single poles with short enough spans and a particular clustered conductor array to prevent it from being much higher than the existing line; or two side by side single poles. DPS believes roadside screening and hedgerows are warranted along the crossings and near to them on Hunt Road. 11/24/04 DPS Findings of Fact, Finding 263.

ACRPC has stated that monopoles are not necessary and there should be screening for the houses and planting at the road crossing. Vissering Surr. pf. at 7.

VELCO Response: Constructing the 345 kV line in a single pole configuration would not be a reasonable mitigation alternative because it is more costly and the H-frame will not have an undue adverse impact on aesthetics. A single pole configuration has been estimated to be twice the cost of the H-frame configuration. DPS-Cross-52. VELCO will work with ACRPC, DPS and the landowners to develop and adopt additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. However, the DPS suggests planting hedgerows along the roadside. This is not a preferred mitigation alternative in this location because the line runs along an open field with existing views. The screening of these views would worsen the impact of the line on the aesthetics. Vissering Surr. pf. at 3-4; Tr. 11/9/04 Vol. II, at 85, 110-11 (Raphael).

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Town Hill Road (Mile 34.9)

DPS believes that one potential mitigation option for this entire section would be to use new single poles with short enough spans and a particular clustered conductor array to prevent it from being much higher than the existing line; or two side by side single poles. DPS also believes that roadside screening and hedgerows are warranted along the crossings and near to them on Town Hill Road. 11/24/04 DPS Findings of Fact, Finding 263.

ACRPC suggests offsite planting of large trees. Vissering Surr. pf. at 7.

VELCO Response: Constructing the 345 kV line in a single pole configuration would not be a reasonable mitigation alternative because it is more costly and the proposed H-frames will not have an undue adverse impact on aesthetics. A single pole configuration has been estimated to be twice the cost of the H-frame configuration. DPS-Cross-52. VELCO should work with ACRPC and DPS to develop and adopt additional mitigation measures, provided that such measures are consistent with good utility practice and will not unreasonably add to the cost of the project. However, the DPS suggests planting hedgerows along the roadside. This is not a preferred mitigation alternative in this location because the line runs along an open field with existing views. The screening of these views would worsen the impact of the line on the aesthetics. Vissering Surr. pf. at 3-4; Tr. 11/9/04 Vol. II, at 85, 110-11 (Raphael).

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

New Haven to Queen City

New Haven Substation

In addition to the mitigation proposed by VELCO, DPS recommends screening the south and north sides of the New Haven substation with gradual rises feathered into surrounding landscape, high enough to provide a platform for vegetative screening. *See* DPS Brief at 129.

New Haven's brief, page 24, suggests that the substation should be moved to the northwest side of Boise field.

VELCO Response: VELCO has recommended berms with plantings to the south and east (*see* VELCO Brief at 165) but disagrees with the DPS proposal for a rise to the north, as it would likely interfere with the existing, mature hedgerow and the working agricultural lands. Instead, VELCO proposes to supplement the hedgerow to the north and to work with the parties to determine an appropriate mix of species and reasonable number of plants for screening on the southern and eastern berms and around the substation. As to New Haven's proposal, Mr. Raphael and Mr. Boyle have testified that the substation expansion can be sufficiently mitigated in its present location and that the cost of the relocation proposal ($1.8 to $2.3 million versus $100,000 for the proposed mitigation) is an important consideration. *See* VELCO Brief at 166-167. Also of great concern to VELCO is the potential delay in the construction of the 345 kV line that could be caused by relocating the substation.

This is an area that VELCO requests the Board to make a final decision as to line route and design in its anticipated January 14, 2005, order.

Route 17 Crossing (Mile 0.1 to 0.2)

The DPS Brief, page 131, recommends that the existing and proposed 115 kV lines be relocated to the west, within 50 to 75 feet of the existing treeline.

New Haven has suggested that both 115 kV lines be placed underground as they cross Route 17. *See* New Haven Brief at 24.

VELCO Response: The DPS proposal is opposed by adjacent landowners, as it would bring the line closer to their homes. The guy wires and poles necessary to reroute the lines as DPS suggests would also impact agricultural lands. *See* VELCO Brief at 151-152. For the reasons discussed in the VELCO Brief, pages 176-184, VELCO does not believe that New Haven's proposal to place the transmission lines underground is a reasonable option for mitigation.

VELCO has proposed two viable alternatives for the Route 17 crossing. In summary, the first alternative reroutes the proposed 115 kV line to a less sensitive crossing west of the existing 46 kV crossing, and the second moves structures on the existing Williston circuit 300 feet back away from Route 17 and matches the structures on the proposed Vergennes 115 kV circuit with the new Williston circuit pole spacing. *See* VELCO Brief at 150-152. Either option will avoid an undue adverse impact under the Quechee test. VELCO favors the second option, as it is a cleaner solution and has the benefit of utilizing an existing utility corridor. The second option would keep the structures of both circuits back approximately 300 feet from Route 17 (both north and south) and out of the cone of vision of travelers on Route 17 in both directions. Because this is a location where the circumstances warrant it, the existing 115 kV structure should be relocated.

Lime Kiln Road (Mile 2.4)

The New Haven Brief, page 28, recommends a number of additional mitigation measures for Lime Kiln Road.

VELCO Response: New Haven does not cite to any expert testimony in support of its proposals. All of the experts who have commented on this section of the Project (Ms. Vissering, Mr. Boyle, and Mr. Raphael) agree that VELCO's proposal will provide sufficient mitigation to satisfy the Quechee test. *See* VELCO Brief at 152; Vissering Surr. pf. at 9; Exhibit DPS-DR-10 at 8, 15.

Plank Road Crossing (Vergennes Reroute Mile 0.9)

The Ferrisburgh Brief, findings 57-58, calls for additional screening along the south/southwest side of the railroad right-of-way where existing vegetation is sparse.

VELCO Response: VELCO agrees to work with Ferrisburgh to develop additional screening as indicated, provided that such screening will not unreasonably add to the cost of the Project.

South Middlebrook Road (Vergennes Reroute Mile 1.4 to 1.5)

In addition to the mitigation proposed by VELCO, Ferrisburgh recommends reducing pole heights from Plank Road towards the South Middlebrook Road crossing; adding street trees along the north side of South Middlebrook Road for 600 feet on either side of crossing; and planting trees along the outer edge of the road right-of-way. *See* Ferrisburgh Brief, findings 66-69.

VELCO Response: VELCO agrees to reduce pole heights where possible from Plank Road to South Middlebrook Road. While VELCO's aesthetics expert does not think it necessary to plant 1,200 feet of trees along the road, VELCO also agrees to work with Ferrisburgh to develop additional screening and mitigation, provided that such screening is consistent with good utility practice and will not unreasonably add to the cost of the Project.

Monkton Road (Vergennes Reroute Mile 2.5 to 2.6)

Ferrisburgh recommends that the proposed 115 kV line approach the Monkton Road crossing on the west side of the railroad, then cross to the east at the intersection. The town also calls for lower transmission poles near Monkton Road; additional trees to extend the existing tree row on the south side of the railroad crossing 400 feet to the west of the crossing; and street trees at the edge of the open field on the south side of Monkton Road for 300 feet to the east of the crossing. *See* Ferrisburgh Brief, findings 77-82.

VELCO Response: VELCO agrees to adopt Ferrisburgh's proposal to cross the east side of the railroad and utilize lower transmission poles to the extent that it is possible. While VELCO is not in agreement with the extent of the plantings recommended by Ferrisburgh, VELCO will also work with Ferrisburgh to develop additional screening and mitigation, provided that such screening is consistent with good utility practice and will not unreasonably add to the cost of the Project.

Route 7 (Vergennes Reroute Mile 2.8 to 2.9)

In addition to VELCO's proposed mitigation, Ferrisburgh suggests that VELCO should lower pole heights as much as possible at the crossing of Route 7; maintain and supplement the existing tree row along the railroad; add plantings to the tree row in the field north of the line; add street trees along the western edge of Route 7 right-of-way for 600 feet north of the crossing; and add street trees on both sides between the crossing and the Route 7 intersection with Monkton Road. *See* Ferrisburgh Brief, findings 94-97.

VELCO Response: To the extent possible, VELCO agrees to use lower pole heights. VELCO does not agree with the extent of the screening suggested by Ferrisburgh, but VELCO agrees to work with Ferrisburgh to develop additional screening and mitigation, provided that such screening is consistent with good utility practice and will not unreasonably add to the cost of the Project.

Vergennes Substation

The Ferrisburgh Brief, findings 100-101, recommends planting evergreen and deciduous trees to screen views of the substation from the proposed welcome center, as well as locating the substation as far west and south as possible.

VELCO Response: VELCO agrees to adopt both proposals.

Botsford Road

In its brief, Ferrisburgh suggests a number of measures to mitigate the aesthetic impact of the line on Botsford Road, including lowering the height of the line and developing extensive planting. *See* Ferrisburgh Brief, finding 108.

VELCO Response: As Mr. Boyle has testified, the line does not come close to Botsford Road, and intervening land forms, topography and the hedgerows along Avery Road mitigate any potential impact. Boyle Reb. pf. at 14. However, VELCO agrees to work with Ferrisburgh to lower pole heights in this area to the extent that it is possible.

South Slang (Little Chicago Road Reroute Mile 0.7 to 0.8)

In addition to the mitigation proposed by VELCO, the DPS Brief, pages 133-134, advocates reducing the extent of clearing in the vicinity of the Slang to retain more existing vegetation for screening, reducing pole heights, and adding native plantings along the banks of the Slang.

Ferrisburgh recommends placing the portion of the line that traverses the Slang underwater. *See* Ferrisburgh Brief, finding 127.

VELCO Response: While the pole heights have already been reduced as much as possible, VELCO agrees to work with DPS to add native plantings along the banks of the Slang and retain as much existing vegetation as possible, provided that the plantings and retention of vegetation are consistent with good utility practice and that the plantings will not unreasonably add to the cost of the Project. With regard to Ferrisburgh's recommendations, the town has not explored the cost, environmental or technical implications of the proposal to underground, and VELCO does not believe that placing the line underground is a reasonable option for mitigation. *See* VELCO Brief at 156, 176-184.

Round Barn Farm Neighborhood (Mile 9.8 to 10.3)

In addition to VELCO's proposed mitigation near the Round Barn Farm Neighborhood, the Ferrisburgh Brief, finding 131, suggests keeping the line as far west as possible to retain the existing trees along the railroad right of way and supplementing the existing hedgerow with fast growing evergreens.

VELCO Response: VELCO agrees to adopt both of these proposals.

Ferrisburgh Substation

In addition to VELCO's proposed mitigation, the DPS and Ferrisburgh briefs both recommend additional street tree plantings along both sides of Long Point Road. *See* DPS Brief at 133; Ferrisburgh Brief, finding 137, 141.

VELCO Response: While noting that the surrounding area is primarily open agricultural land, VELCO agrees to work with the parties to develop additional screening and mitigation, provided that the screening (1) will not infringe upon working agricultural lands, unless agreed to by the landowner, (2) is consistent with good utility practice and (3) will not unreasonably add to the cost of the Project.

Thompson's Point Road (Mile 14.9)

In addition to the mitigation proposed by VELCO, the DPS and Charlotte briefs recommend planting street trees on both sides of Thompson's Point Road. *See* DPS Brief at 135; Charlotte Brief, finding 84.

VELCO Response: VELCO agrees to work with these parties to develop street tree plantings, provided that they are consistent with good utility practice and will not unreasonably add to the cost of the Project.

Charlotte Substation

In addition to VELCO's proposed mitigation for the Charlotte substation, DPS advocates that VELCO develop a restoration plan for the abandoned substation site and use appropriate screening and mitigation of lighting at the new substation site. *See* DPS Brief at 135.

VELCO Response: VELCO agrees to adopt both recommendations.

Greenbush Road (Mile 18.2 to 18.3)

In addition to the mitigation proposed by VELCO at Greenbush Road, DPS recommends placing poles so as to minimize their visibility from the Demeter Park view from the brow of the hill west of Route 7, planning the pole placements on paper and then confirming them in the field. *See* DPS Brief at 136. DPS argues that the Board should include field confirmation of pole heights in this location as an express part of post-certification review. While VELCO agrees to work closely with the parties on pole placement to minimize the visual impact, field verification of pole heights would be an unnecessary and burdensome exercise. VELCO agrees to use the lowest pole heights possible in this corridor, to the extent that it is consistent with good utility practice.

The Charlotte Brief, finding 87, also suggests that the use of lower poles along north Greenbush Road, suggested by VELCO for miles 18.0 to 18.8, should start at mile 18.0 and extend northward to mile 19.5.

VELCO Response: VELCO agrees to adopt Charlotte's recommendation to use lower poles from mile 18.0 to mile 19.5. While VELCO also agrees to work closely with the parties on pole placement to minimize the visual impact, as suggested by DPS, field verification of pole heights would be an unnecessary and burdensome exercise. VELCO has already stated that it will use the lowest pole heights possible in this corridor, to the extent that it is consistent with good utility practice.

Bostwick Road (Mile 20.4)

In addition to VELCO's mitigation proposal at Bostwick Road, the DPS Brief calls for several measures to maximize tree retention on the east side of Meach Cove Road near Bostwick Road, including assessing the health of trees and how they might fall, removing only diseased or compromised trees, cabling or guying critical screen trees, and additional plugging or screening. *See* DPS Brief at 137.

The Town of Shelburne recommends placing the line underground from Bostwick Road to the Shelburne Substation through this section (findings 53-55). The town also proposes lowering pole heights through this same section by utilizing the compact pole configuration suggested by DPS witness George Smith. *See* Shelburne Brief, finding 126.

VELCO Response: VELCO agrees to work with the parties to minimize clearing, consistent with good utility practice, but does not agree with the extensive measures proposed in the DPS Brief. VELCO is also concerned that the compressed pole configuration suggested by Mr. Smith and the Town of Shelburne would decrease lightning protection for the line, and therefore does not support reducing pole heights by compressing the pole design. *See* Tr. 11/8/04, Vol. I at 43 (Dunn). VELCO will use the lowest possible pole heights, to the extent that doing so is consistent with good utility practice. Shelburne's proposal to place the line underground is not a reasonable means by which to mitigate the line's impact. See VELCO Brief, 176-184.

Fletcher Lane Reroute / Meach Cove (Mile 21.5 to 22.0)

In addition to mitigation proposed by VELCO for the Fletcher Lane Reroute, the DPS Brief, pages 140-141, recommends: (1) adding screening to reduce visual impact from the Arbors across the meadow; (2) using compact configurations to lower pole heights to 51 or 46 feet; (3) placing poles so that they are not directly in front of residences; and (4) replanting or retaining buffer vegetation.

VELCO Response: VELCO agrees to add screening to reduce impacts to the Arbors, use the lowest possible pole heights (consistent with good utility practice), and avoid placing poles in front of residences. VELCO will also work to replant or retain buffer vegetation where possible, consistent with good utility practice.

Harbor Road (Mile 22.0 to 22.1)

In addition to VELCO's proposal for Harbor Road, DPS recommends: (1) using darker pole colors; (2) using compact configurations to lower pole heights to 51 or 46 feet; (3) placing poles so that they are not directly in front of residences; and (4) replanting or retaining buffer vegetation. *See* DPS Brief at 140.

VELCO Response: VELCO agrees to try to use darker pole colors in the Harbor Road area, but can offer no guarantee as to how the colors will weather over time. VELCO agrees to use the lowest possible pole heights, avoid placing poles in front of residences, and replant or retain buffer vegetation where possible, all to the extent that those measures are consistent with good utility practice.

Shelburne Substation

In addition to the mitigation proposed by VELCO, DPS recommends: (1) planting large street trees and (2) replanting or retaining buffer vegetation. *See* DPS Brief at 140.

The Shelburne Brief, finding 197-201, additionally calls for: (1) plantings of a larger size to be added on the east side of McCabe's Brook to help screen the substation from Harbor Road; (2) reducing parking from 5 to 2 or 3 spaces; and (3) possibly placing the substation within a building.

VELCO Response: VELCO agrees to adopt both recommendations made by DPS, provided that they are consistent with good utility practice and will not unreasonably add to the cost of the Project. VELCO also agrees to work with Shelburne to develop additional screening on the east side of McCabe's Brook, provided that such screening is consistent with good

utility practice and will not unreasonably add to the cost of the Project. Additionally, VELCO will reduce the planned parking spaces consistent with Shelburne's request. Shelburne's proposal to enclose the substation in a building, however, is not a reasonable option to mitigate the impact of the expansion, for the reasons discussed in the VELCO Brief, page 169, with regard to a similar proposal by Charlotte.

Turtle Lane to Blodgett Properties (Mile 22.2 to 22.7)

In this corridor, the DPS Brief recommends: (1) placing poles carefully around Turtle Lane to reduce visual impacts, locating them away from the traveled area, buildings and outdoor spaces; (2) using compact configurations to lower pole heights to 51 or 46 feet; (3) placing poles so that they are not directly in front of residences; and (4) replanting or retaining buffer vegetation. *See* DPS Brief at 140.

The Shelburne Brief advocates rerouting the proposed line onto a small portion of Nature Conservancy land east of Blodgett Field to avoid planned recreation fields. *See* Shelburne Brief, finding 207.

VELCO Response: VELCO agrees to work with DPS to locate poles carefully around Turtle Lane, use the lowest possible pole heights (consistent with good utility practice), and avoid placing poles in front of residences. VELCO will also work to replant or retain buffer vegetation where possible, in keeping with good utility practice. To the extent that it does not unacceptably impact any natural resource present, VELCO additionally agrees to route the line as requested by Shelburne.

Bay Road (Mile 23.9 to 24.1)

In addition to VELCO's proposals for Bay Road, DPS has recommended: (1) burying distribution lines; (2) using compact configurations to lower pole heights to 51 or 46 feet; (3) placing poles so that they are not directly in front of residences; and (4) replanting or retaining buffer vegetation. *See* DPS Brief at 140-141.

The Town of Shelburne advocates placing the line underground along Bay Road to the South Burlington town line. *See* Shelburne Brief, findings 250-260.

VELCO Response: VELCO proposed two overall mitigation options for Bay Road, primarily distinguished by the collocation of distribution lines in one and the undergrounding of distribution lines in the other. *See* VELCO Brief at 161-163. Due to the cost difference (roughly $73,900 to collocate distribution versus $492,000 to place it underground) and the sufficiency of either mitigation proposal to avoid an undue adverse effect, VELCO strongly advocates collocation. Per the DPS recommendations, VELCO agrees to use the lowest possible pole heights, avoid placing poles in front of residences, and replant or retain buffer vegetation where possible, all to the extent that those measures are consistent with good utility practice. For the reasons discussed in the VELCO Brief, pages 176-184, VELCO has concluded that Shelburne's proposal to place the line underground is not a reasonable alternative to overhead construction.

Mariner's Bay to Queen City Tap (Mile 24.2 to 27.1)

In addition to the mitigation proposed by VELCO along this corridor, the DPS Brief recommends: (1) sufficient screening and sensitive pole placement to avoid blocking views/offending residents; (2) avoiding pole placements near road ends; (3) vegetative plugs or screening at road crossings where possible; and (4) berms, plantings, and darker pole colors at residential sites where apartments, multifamily or condo units are present. *See* DPS Brief at 142.

VELCO Response: VELCO agrees to work with DPS to meet all of the above recommendations, provided that the measures called for are consistent with good utility practice and do not unreasonably add to the cost of the Project. As discussed above, VELCO will try to use darker pole colors where requested, but can offer no guarantee as to how the colors will weather over time.

Queen City Substation

The DPS Brief, page 142, recommends the installation of extensively laid out plantings on at least three sides to screen the substation from the traveled way.

VELCO Response: VELCO agrees to work with DPS to plan additional plantings to screen the substation, to the extent that the plantings do not unreasonably increase the cost of the Project.

IV. POST-CPG PROCESS

Importance of Meeting the 345 kV Construction Schedule

At pages 198-201 of its brief, the DPS suggests eight steps for post-CPG review of NRP filings. While some of the steps may be appropriate, others are not. These are discussed in more detail below. Of paramount concern is that the post-CPG review process be managed so that the aesthetic and other issues already litigated over the past 18 months and 37 days of technical hearings in this proceeding are not re-tried in an open-ended process that prohibits VELCO from meeting critical construction deadlines.

The most critical concern is meeting the construction schedule for the 345 kV line and the 345 kV substation upgrades at New Haven and West Rutland. VELCO's current expectation, assuming there are no significant changes to the Project as filed, is that it will file the final construction plans for the 345 kV line and the New Haven and West Rutland substations in February of 2005. In order to meet a June 2006 in-service date, VELCO must begin construction at the substations in New Haven and West Rutland by NO LATER THAN June, 2005, and clearing for and construction of the 345 kV line by NO LATER THAN April, 2005. THERE IS NO ROOM IN THIS SCHEDULE FOR DELAYS.

The Board's January, 2005 Order Should Make Final Decisions About Project Design and Route in Design Critical Areas Along the 345 kV Line

VELCO recognizes that there remain a number of design and routing issues that are unresolved among the parties. Resolving these differences in certain design critical areas through a final order by this Board will eliminate the need to re-litigate these issues in post-CPG review proceedings. These critical design areas are discussed in detail in the 345 kV line aesthetics section of this Reply Brief, pages 10 through 25. **VELCO asks that the Board resolve those differences by making final decisions in the January, 2005 order.** Specifically, VELCO requests that the Board's January, 2005 order include final decisions regarding design and route for the following: (1) proposals to underground transmission facilities between West Rutland and New Haven and (2) the specific design critical areas listed in the 345 kV aesthetics section.

Proposed 35 Day Default Review Period

In response to comments made by the DPS, VELCO now proposes that the form of CPG attached to its Brief of November 24, 2004 be modified to balance the need to allow a fair opportunity for Parties to comment on final design of the Project components, while at the same time preserving a schedule that will allow VELCO to build critical path items, particularly the 345 kV line upgrade and associated New Haven substation expansion, within the construction schedule. Specifically, VELCO proposes to extend the initial comment period for comments on final construction plans to 14 days, and allow another 21 days for the Board to hold a hearing if necessary and make a final decision on each compliance filing. This 35 day default review period is essential for timing concerns relating to the 345 kV line. There is virtually no room in the schedule for delay. Moreover, parties have already had an opportunity to comment upon the design detail plans for the New Haven substation and many of the sensitive areas along the 345 kV line. In addition, assuming that the Board will have made a determination about final design in its January 2005 order regarding other aspects of the 345 kV line design currently in dispute, VELCO expects that the construction plans included with the compliance filings for the 345 kV upgrades will be largely ministerial.

VELCO suggests that the 35 day review period, which is essential for timing concerns relating to the 345 kV line, be the default review period for all other Project filings. Many of the Project upgrades, particularly the substation upgrades at Blissville, Hartford, Williston and Essex, and the Granite-Barre 115 kV line reconductoring, were not contested. A 35 day review period should be more than sufficient for these upgrades. VELCO currently expects to begin construction at Hartford and Blissville substations in late 2005, and at the Williston substation in Spring of 2006. The construction plans for each substation upgrade will be provided as a separate compliance filing.

VELCO does not expect to begin construction at the Granite substation, or on the 115 kV New Haven to Queen City line and related substation upgrades in Ferrisburgh, Charlotte, Shelburne and Queen City, until mid-2006. Given the amount of comments relating to these upgrades, VELCO anticipates that the review process for Granite substation, and for the 115 kV line and related substation upgrades, may need to be somewhat longer than the 35 day default review period. However, at this time, VELCO does not believe it is appropriate or necessary for this Board to make a decision to extend the default review period for these filings.

Aesthetic Screening Plans Should Be Filed Following Construction

The DPS suggests that VELCO file screening plans prior to construction. VELCO does not believe that it is necessary or appropriate to file screening and landscaping plans prior to construction. The CPG practice followed in the Northern Loop docket and virtually every other VELCO 248 proceeding has been for VELCO to file landscaping and screening plans after construction. This is more efficient and appropriate in that the scope of mitigation screening can better be judged with the facilities in place. In this case, following this existing practice will be absolutely necessary if VELCO is to meet the construction schedule.

Participants in the Post-CPG Review Process Should Be Limited to Parties

The DPS brief at page 200 suggests that VELCO should notify all affected towns, regions and existing intervenors whose interests will be directly affected by VELCO compliance filings. VELCO appreciates that existing landowner intervenors whose interests are directly affected by

construction of a component of the Project may want an opportunity to comment on compliance filings. VELCO does not agree, however, that towns and regional planning commissions who failed to participate in the proceedings, and have failed to file any comments or recommendations concerning the Project, should now be allowed to provide comments after the 18 month technical phase of the docket has been completed. The towns and regional commissions who waived participation by failure to provide comments or intervene are listed in finding no. 87 to Petitioners' November 24, 2004 Brief, and include: West Rutland, Proctor, Pittsford, Brandon, Leicester, Salisbury, Waltham, Williston, Barre City, Barre Town, Hartford, Poultney, the RRPC, the CCRPC, the CVRPC, and the UVLSRPC.

Of the nine towns and two regional commissions affected by the 345 kV upgrade, only two towns filed comments: Middlebury and New Haven. ACRPC is the only regional commission that filed comments on any aspect of the Project. Again, this goes beyond a fairness issue. The 345 kV portion of the Project is subject to a very tight construction schedule, requiring a very disciplined review process. Only those who are parties should be entitled to request further proceedings on the 345 kV line. They are Middlebury (as to the portions in Middlebury), ACRPC (as to the portions in Addison County), New Haven (as to the portions in New Haven), the DPS (as to all portions), and Edward and Lauren Schwiebert (as to property owned in Brandon). Similar restrictions should apply as to others who may be impacted by the other Project components.

Simulations and Staking in the Field Should Be Considered, But Not Mandated

The DPS suggests at page 200 of its brief that for each compliance filing, VELCO should "stake in the field its final design and proposed mitigation for all substations, road crossings, and other areas determined to be sensitive by the Board within that segment or component." DPS also suggests that VELCO produce digital representations of the final layout in all sensitive areas. These rather vague requirements could translate into a very cumbersome and time consuming process, which may be of little or no value. As already noted, many of the Project components received little or no comment. If comments received by the Board demonstrate the need to stake out a particular

portion of the Project, and if requested by the Board to do so, VELCO would be happy to stake in the field.

VELCO is surprised that the DPS would suggest requiring digital simulations as part of the design filing, since DPS' aesthetic consultant, Mr. Raphael, testified that he had difficulty with relying upon simulations, because they are static and give an impression of a view from only one point:

> "[A] lot of our concern has been the view ... for the traveling public from the car. And a simulation cannot provide that type of view because it's a kinetic experience and not a static experience."

TR 11/9/04, at 119-20 (Raphael). Mr Raphael also testified that it's "very hard if not almost impossible" to simulate things like vegetative screening and clearing. *Id.*

Based upon VELCO's experience in this docket, not only do simulations have a tendency to create disputes, they are very time consuming and are very costly to produce. Given the "serious qualifications" that Mr. Raphael described with using simulations as a tool for assessing aesthetic impacts, and the amount of time and resources needed to devote to creation of simulations, VELCO recommends that simulations not be required unless the Board finds, based upon a showing of good cause, that simulations will assist the Board in making a decision on a compliance filing.

Negotiation of Design Changes With VELCO

VELCO strongly agrees with the DPS suggestion at page 200 of the DPS brief, that parties should attempt to negotiate design changes with VELCO before bringing potential disputes to the Board. VELCO recommends that parties be ordered to attempt to resolve differences with VELCO first, before challenging any compliance filing or bringing disputes to the Board.

A Board Hearing Officer Should be Assigned to Facilitate Dispute Resolution

The DPS brief recommends that the Board should consider bringing in a mediator or facilitator to resolve disputes among the parties. VELCO respectfully disagrees. The design issues involved in this proceeding have been the subject of extensive review during technical hearings

before this Board and Board staff. Bringing a third party in at this phase of the Project could involve months of delay while the facilitator/mediator familiarizes himself/herself with the Project details. The Board, with the assistance of an assigned Board staff hearing officer(s), should resolve disputes.

Noise Mitigation

The DPS brief suggests that VELCO file noise mitigation plans along with its final construction plans. VELCO has agreed on the record with the recommendations of DPS witness George Smith regarding noise issues. During the Design Detail hearings, the Board heard the testimony of VELCO's expert witness, Kenneth Kalisky. VELCO has agreed to: (1) take noise readings at all substations as they exist; (2) model the noise impacts of any proposed changes to each substation to ensure that each is designed to meet applicable noise standards, with any design changes required to meet such standards incorporated in the final designs proposed; and (3) test each substation after the NRP upgrades are complete to ensure that the actual noise levels are within applicable standards. See DPS, Smith pf. at 8-9 and Kalisky pf. dated 9/14/04.

V. RESPONSES TO THE TOWNS

Responses to Shelburne, Charlotte and Ferrisburgh

VELCO responds to the arguments presented in the briefs filed by the Towns of Shelburne, Charlotte and Ferrisburgh as follows:

The Town of Shelburne argues that the Project will unduly interfere with the orderly development of the region, citing concerns that: (1) the Project will adversely affect the aesthetics of key tourist sites, primarily Shelburne Farms and Shelburne Museum, and will thus have a negative impact on tourism; (2) changes in scenic vistas and concerns about EMF will make Shelburne a less attractive place to live, leading to decreases in property values and tax revenues; (3) decreased tax revenues would necessitate higher taxes or cuts in municipal and school budgets; and (4) the Project is at odds with Town Plan and Regional Plan provisions calling for impacts to natural, scenic, and historical resources to be minimized. *See* Shelburne Brief at 12-16, 74-76.

VELCO Response: As discussed in the VELCO Brief, pages 33-40, VELCO has considered the concerns of the towns and worked to mitigate the Project's aesthetic and environmental impact on areas of concern. By paralleling the existing corridor, VELCO has also chosen a route that has been "considered in the developmental aspects of communities by both public and private endeavors" for decades. *See* VELCO Brief at 39; *Petition of VELCO,* Docket #4381, Order of 3/6/80 at Finding No. 12. Shelburne's concerns about the Project's potential economic impacts on tourism, property values, and tax revenues are purely speculative; Shelburne has failed to present any empirical evidence in support of its position. Available evidence points to the conclusion that the NRP will, in fact, have a positive economic impact. The Vermont Association of Snow Travelers, Vermont Ski Areas Association, IBM, the Vermont Chamber of Commerce and other business organizations have all asserted that reliable energy is essential to assure their continued success. *See* VELCO Brief at 83-88. Furthermore, Shelburne emphasizes in its brief that the Project's compliance with 248(b)(1) should be addressed regionally, looking at the cumulative impact of the Project on the towns in the region. Given that the Project is intended to improve the reliability of the region's electric system and is supported by many of the region's key businesses, it is evident that the cumulative impact on orderly development of the region will be positive and not undue.

The Town of Charlotte also maintains that the Project will unduly interfere with orderly development of the region, due to its effect on certain conserved lands and scenic resources as well as the Project's failure to comply with the Charlotte Town Plan's goal of placing utility lines underground. *See* Charlotte Brief at 36-37.

VELCO Response: As discussed in the VELCO brief, pages 33-40, VELCO has given due consideration to Charlotte's recommendations and has modified its proposal to address the town's concerns where reasonable. The Board should thus find that the Project will not unduly interfere with the orderly development of the region.

Shelburne, Charlotte and Ferrisburgh all argue that VELCO has not sufficiently demonstrated compliance with 10 V.S.A. § 6086(a)(6) and (7), requiring that a project "will not cause an unreasonable burden on the ability of a municipality to provide educational services" and "will place an unreasonable burden on the ability of the local governments to provide municipal or governmental services." *See* Shelburne Brief at 86-87; Charlotte Brief at 44; and Ferrisburgh Brief at 51-52. These parties contend that because VELCO did not seek input from town officials on the issue of educational and municipal impacts or review the circumstances of each town individually, the Board cannot make an affirmative finding on these criteria.

> VELCO Response: 30 V.S.A. § 248 does not require that the petitioner consult with the affected towns regarding potential educational or municipal impacts; it requires only a showing that the project will not place an unreasonable burden on local services. In support of this finding and based on past experience with similar projects, VELCO has stated that the Project will not bring additional students into the Project area; that it will result in increased taxable property and tax revenue for municipal budgets; and that the Project will not create an additional burden on local fire departments or law enforcement officers. *See* Johnson pf. at 14-15; Tr. 3/1/04 Vol. II at 97 (Johnson). Given VELCO's testimony and the lack of any evidence that there will be a burden on educational and municipal services, the Board has ample grounds for an affirmative finding on these criteria.

Ferrisburgh and Shelburne assert that VELCO has not provided sufficient evidence for an affirmative finding under 10 V.S.A. § 6086(a)(9)(K) regarding impact on public investments, specifically as to the Little Otter Creek Wildlife Management Area in Ferrisburgh and various areas of historic and aesthetic significance in Shelburne.[3] *See* Ferrisburgh Brief at 52; Shelburne Brief at 87.

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[3] The Charlotte Brief also details the public investment in conserved lands in the town (pages 7-10), but Charlotte concludes that the Project will not have a negative effect on these or any other public investment (page 44).

VELCO Response: To the extent that Shelburne and Ferrisburgh imply that the Project will materially jeopardize or interfere with the aesthetics or environment of public resources, VELCO has provided voluminous testimony demonstrating that the environmental and aesthetic impacts of the Project can be sufficiently mitigated, including impacts on the specific areas of concern cited by the towns. *See* VELCO Brief at 88-201. In Re: J. Philip Gerbode, Land Use Permit #6F0396-R-EB-1, Findings of Fact, Memorandum of Law, and Order at 23 (Jan. 29, 1992), the Environmental Board found that a proposed project complied with § 6086(a)(9)(K) on a showing that the aesthetic impacts of a project on a nearby highway could be successfully mitigated. Given VELCO's proposed mitigation of Project impacts, and the fact that the Project will have positive effect on public investments by improving the reliability of the electric system, the Board should find that the Project does not materially jeopardize or interfere with the function, efficiency, safety, or the public's use, access to, or enjoyment of public resources facilities, services, or lands.

Shelburne, Charlotte, and Ferrisburgh advocate that the Board impose a CPG condition establishing a 50-foot buffer around all surface water, including wetlands that have surface water, in which herbicide use would be prohibited. *See* Shelburne Brief at 85-86; Charlotte Brief at 43; and Ferrisburgh Brief at 50.

VELCO Response: As VELCO has discussed in detail in its brief, pages 116-117, VELCO's application of herbicides in rights-of-way is controlled by a permit issued annually by the Department of Agriculture in consultation with the Vermont Pesticide Advisory Council. It would be inappropriate to issue a permit condition that conflicts with existing regulation, because the towns have not introduced compelling evidence that the 50 foot standard would produce an environmental benefit. In the absence of such evidence and in the interest of consistent, reasonable regulation, the Board should therefore decline to impose the condition recommended by Shelburne, Charlotte, and Ferrisburgh.

Charlotte additionally requests that the Board condition the Project's CPG to require hand clearing in the region of Thorp Brook. *See* Charlotte Brief at 42-43.

VELCO Response: As discussed above, VELCO's use of herbicides is regulated by the Department of Agriculture. VELCO currently has a permit prohibiting herbicide use within a 30 foot buffer from all waters of the state. In the absence of compelling evidence that departing from the permit guidelines would produce an environmental benefit, and in the interest of consistent regulation, the Board should not impose any additional or different requirements on VELCO.

Shelburne's brief presents concerns that the 115 kV line's crossing of the LaPlatte River may cause erosion of the river banks, reduce shade (changing the species composition of the river), and impact a wildlife corridor. *See* Shelburne Brief at 37.

VELCO Response: As VELCO discusses in its brief, pages 115-116, the crossing of the LaPlatte River is adjacent to existing railroad and municipal sewage corridors, thus minimizing its impact on the habitat. Additionally, larger streams and rivers such as the LaPlatte have significant expanses that are presently not shaded. As a result, any increase in water temperature due to tree clearing along relatively short segments of shoreline will be a small, marginal increase to overall water temperature. *See* VELCO Brief at 111. Shelburne did not introduce any independent evidence or expert analysis to substantiate their claims. The ANR has concluded that the Project can be designed, pursuant to the permits that VELCO will obtain from the agency and the Army Corps of Engineers, to avoid an undue adverse effect on the environment.

Shelburne also argues that the Project will significantly disturb the McCabe Brook wetland by requiring the importation of fill to construct an access road, fragmenting a natural area, and changing the wildlife composition of the area. *See* Shelburne Brief at 57.

VELCO Response: As with all significant wetlands impacted by the Project, VELCO will need to apply for permits from the Vermont Agency of Natural Resources and the Army Corps of Engineers prior to construction. VELCO has helped minimize its impact on the McCabe Brook area by proposing to relocate the substation expansion so that it will be outside of the McCabe Brook floodway. VELCO Brief at 112. Shelburne did not introduce any independent evidence or expert analysis to substantiate their claims. The ANR has concluded that the Project can be designed, pursuant to the permits that VELCO will obtain from the agency and the Army Corps of Engineers, to avoid an undue adverse effect on the environment.

The briefs of Shelburne, Charlotte, and Ferrisburgh cite to *In Re Halnon*, CPG NM-25 (3/15/01) in support of the contention that the Project's aesthetic impact on rural areas may be found shocking and offensive.

VELCO Response: The Board differentiated its adverse finding on aesthetics in *Halnon* from its affirmative finding for a comparable project in a rural area in *In Re Blittersdorf*, CPG NM-11 (5/26/00). The Board noted in *Halnon* that there were no large structures in the area of the proposed project, and thus the proposed wind turbine would be shocking and offensive; in contrast, the rural area in which the *Blittersdorf* project was sited included "barns, silos, farm machinery, tall telephone poles, a large AT&T tower, and other large structures." *See In Re Halnon* at 27. Given that the Project is primarily sited in a utility corridor with existing large structures, under *Halnon* the Project should not, in fact, be found shocking and offensive.

The briefs of Shelburne, Charlotte, and Ferrisburgh also posit that the Board's consideration of the "overall societal benefit" of a project should not be directly incorporated in the Quechee analysis, but should be considered separately.

VELCO Response: As discussed in VELCO's brief, page 90, the Board specifically stated in *Petition of UPC Wind Management*, Docket #6884 (4/21/04) that it could consider the overall societal benefit of a Project in the course of applying the Quechee test.

The Charlotte and Shelburne briefs restate the towns' proposals to place the proposed 115 kV line underground in certain sections.

VELCO Response: The VELCO Brief, pages 176-184, discusses in detail the broad economic, environmental and reliability reasons for which the proposals to place the line underground are not reasonable. There are several assertions made in Shelburne's brief, though, that require clarification. The Shelburne brief highlights Torben Aabo's testimony that overhead lines can produce higher levels of EMF at the center of the circuit than underground lines (Shelburne Brief at 51). However, there is mixed evidence on EMF levels from underground versus overhead circuits; Hans Mertens testified that XLPE cables have higher EMF readings directly above the circuit than do overhead installations (*Id.*). Shelburne also argues that failures in underground cable systems are rare (*Id.* at 56). While this may be true, it is important to note that when such failures occur, it could take days or even weeks to repair them, during which time both Charlotte and Shelburne could conceivably be without power. *See* Dunn Reb. pf. at 8. With regard to cost, Shelburne acknowledges that an underground line would be many times as expensive as an overhead line, but the brief implies that there would be considerable savings in right-of-way acquisition and maintenance costs (Shelburne Brief at 54, 56). The difference in right-of-way acquisition costs has never been quantified, but, given the cost differential between overhead and underground lines, it would surely not be sufficient to make underground lines competitive as to cost. Additionally, David Boers has testified that it is still necessary to maintain the right of way and clear trees for an underground line; the clearing and maintenance, as for an overhead line, would need to provide open access to perform repairs along the whole route. Tr. 2/18/04 (Vol. I) at 44 (Boers). The bottom line is that placing

transmission lines underground brings with it significant expense to Vermont ratepayers, greater environmental impacts, and potential reliability problems. As David Raphael has testified, undergrounding should only be considered as a last resort. Tr. 12/2/04 at 124 (Raphael).

VI. RESPONSES TO TESTIMONY OF WITNESS ROBERT BLOHM

On September 3, 2004, New Haven, CLF, VCSE, and the ACRPC (collectively the "Opposing Parties") filed surrebuttal testimony of Robert Blohm. Mr. Blohm was presented as "an expert on reliability issues." *See* July 22, 2004 letter from James Dumont, Esq. to Kurt Jansen, Esq., PSB General Counsel. Mr. Blohm's ultimate opinion, which appears at page 30 of his surrebuttal prefiled testimony, is that VELCO has failed to justify need for the NRP "in general, and the 345 kV line in particular."

On September 14, 2004, VELCO moved to strike the testimony of Mr. Blohm, principally on the grounds that it materially exceeded the scope of surrebuttal authorized by the Board in its August 9, 2004 Scheduling Order. In that order, the Board stated that "[p]refiled surrebuttal testimony must be *narrowly focused* to address evidence in the record, *and should be limited to responding to new matters which could not have been reasonably responded to in an earlier round of prefiled testimony*." (emphasis added.).[4] VELCO also objected on the grounds that the probative value of Mr. Blohm's testimony, if any, was substantially outweighed by the danger of unfair prejudice, confusion of issues and delay. *See* V.R.E. 403.

The Board agreed with VELCO, and on October 8, 2004, the Board issued an order striking portions of the surrebuttal testimony of Mr. Blohm. VELCO prepared for and cross-examined Mr. Blohm on October 20, 2004, but only as to portions of his testimony not previously stricken.

On November 16, 2004, New Haven filed a motion to reconsider the Board's October 8, 2004 order. On November 24, 2004, over objections from VELCO and the DPS, the Board granted

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[4] VELCO's direct case, and specifically the testimony and reports submitted by the VELCO Planning Panel, addressed reliability standards and the need for the Project. To the extent that they were in issue, they were placed in issue last summer and should have been challenged by Opposing Parties in their direct case or, at the latest, their rebuttal case.

New Haven's motion to reconsider and reversed its order striking Mr. Blohm's testimony. The entirety of Mr. Blohm's prefiled surrebuttal testimony was admitted into the record on December 3, 2004.

Opposing Parties have argued to the Board that Mr. Blohm is a "necessary witness" to respond to Board questions concerning reliability standards used in the rest of the country. Specifically, they point to pages 2-3 of Mr. Blohm's prefiled testimony, which argues that "if we want to compare Vermont's reliability needs with the rest of the country, we best compare apples with apples, and use the NERC N-1 standard and the related quantification known as TRM."[5] At page 18, they assert that Mr. Blohm,

> "unlike any other witness, participates in the proceedings of NERC, which is the preeminent reliability standard-setting entity in North America. His knowledge will assist the trier of fact in understanding the evidence."

These assertions dramatically overstate Mr. Blohm's expertise in the area of bulk power transmission system planning. The record evidence does not support that he has any such expertise and, in fact, demonstrates that his advice is misleading and contrary to industry practice and recommendations.

Until recently, Mr. Blohm's professional experience was as an investment banker. He is not an engineer, and admits that he has no education, training or experience in electrical engineering, transmission system planning, design, operation, or in the performance of electrical systems analysis essential to transmission system planning. Exhibits VELCO Cross Blohm Surr. 4-13, 22, 23. His testimony was not submitted on behalf of NERC, and he is not a member of any NERC standing committee or subcommittee. Exhibits VELCO Cross Blohm Surr. 16, 30. Similarly, he is not now and never has been a member of any NEPOOL, ISO-NE or NPCC task force or committee. Exhibit VELCO Cross Blohm Surr. 15. He admitted to having no experience with the implementation of demand response programs that meet the basic features recognized in the NERC Manual. Exhibit VELCO Cross Blohm Surr. 25. He has no education, experience or training in the siting, construction or operation of distributed generation or generation. Exhibit VELCO Cross Blohm

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[5] *See* Opposing Parties' Opposition to VELCO Motion to Strike, at 15.

Surr. 22-23. In conclusion, Mr. Blohm has no demonstrable knowledge, experience or training that qualify him as an expert on bulk transmission system reliability matters.

Perhaps the dearth of Mr. Blohm's expertise concerning transmission system planning is best evidenced by his suggestion that an N-1 transmission system planning standard would be more consistent with NERC policy than application of an N-2 standard. His position is unsupported and contradicted by NERC itself. NERC recently issued its "Control Area Readiness Audit Report - ISO New England, May 5-6, 2004," Exhibit VELCO Cross Blohm Surr. 31. That Audit Report explicitly identifies as potential "best practices" for other NERC members, "ISO-NE's use of N-2 analysis to ensure restoration of operating reserves for both transmission and capacity constraints within 30 minutes." Exhibit VELCO Cross Blohm Surr-31, at 6-7. Mr. Blohm was apparently completely unaware of this report when he testified that Vermont should use an N-1 standard. While this egregious oversight may not have been intentional, it illustrates Mr. Blohm's lack of competence to speak to NERC transmission planning policy and standards.

Another misleading aspect of Mr. Blohm's testimony is his failure to mention an important provision in the NERC Planning Standards (1997) (Exhibit VELCO Cross Blohm Surr-32) relating to regional planning criteria and guides. Only selected sections of the NERC Planning Standards were introduced by Opposing Parties as New Haven Rebuttal Exhibit 8. Missing from the excerpts offered by Opposing Parties are pages 4-5, which include the following instruction:

> **"Regional Planning Criteria and Guides**
>
> The Regions, subregions, power pools, and their members have the primary responsibility for the reliability of the bulk electric supply in their respective areas. These entities also have the responsibility to develop their own appropriate and more detailed planning and operating reliability criteria and guides that are based on the **Planning Standards** and which reflect the diversity of individual electric system characteristics, geography, and demographics for their areas.
>
> Therefore, all electric industry participants must also adhere to applicable Regional, subregional, power pool, and individual member planning criteria and guides. *In those cases where Regional, subregional, power pool, and individual member planning criteria and guides are more restrictive than the **NERC Planning Standards**, the more restrictive reliability criteria and guides must be observed."*

Exhibit VELCO Cross Blohm Surr-32, at 4-5 (NERC Planning Standards (1997)) (emphasis added). See also Petitioners' Finding No. 130.

At most, Mr. Blohm's recent voluntary participation at NERC meetings as a member of the general public *could* have provided him with a level of information or knowledge relating to NERC standards and practices. However, this potential to learn information does not mean that he did. In fact, his complete lack of knowledge relating to NERC's audit recommendations for ISO-NE and the regional compliance obligations under the NERC Planning Standards reveals that he has not. He certainly has not been "deeply involved in professional committees" of NERC that apply the NERC Planning Standards or evaluate the degree to which control areas meet their responsibilities under NERC.

As to his completely irrelevant argument regarding TRM, Mr. Blohm has failed to identify a single NERC document or standard that even remotely suggests that a publicly posted TRM is necessary for transmission system planning or compliance with NERC and regional reliability criteria. TRM is a markets concept unrelated and irrelevant to transmission system reliability and planning. In fact, as Mr. Whitley testified during the rebuttal hearings, the deterministic transmission studies performed to test the bulk power system in New England build in NO MARGIN. Tr. 9/21/04, Vol. II at 84 (Whitley).

In conclusion, Mr. Blohm's testimony and recommendations are unfounded and unreliable and should be completely ignored by this Board.

VII. CONCLUSION

The overwhelming weight of the evidence in this proceeding confirms that the NRP is an essential reliability project that is needed to protect and promote the public good of the State of Vermont and its residents, and that the Project satisfies all of the substantive criteria of Section 248. Petitioners' November 24, 2004 Brief addressed virtually all of the issues relating to the Project's compliance with the Section 248 criteria. Two principal areas that deserve additional consideration at this point are suggestions for aesthetics mitigation, and a post-CPG review process for compliance filings. The sections of this Reply Brief regarding aesthetics and post-CPG review take into account

both the comments of the parties and the critical time limitations faced by VELCO for initiating and completing Project construction work. The critical path item is completion of the 345 kV line upgrade, including the New Haven substation expansion, by the summer of 2006. Construction of the 345 kV line must begin by April, 2005, and construction of the New Haven and West Rutland substations must begin by June, 2005, if VELCO is to meet the summer, 2006 in-service deadline. VELCO respectfully requests this Board to approve the NRP as proposed by Petitioners and issue an Order and CPG authorizing construction of the Project in accordance with the conditions and review processes set forth in Petitioners' November 24, 2004 proposed form of CPG, modified to allow a 35-day default review period for all compliance filings.

DATED at Montpelier, Vermont this 17th day of December, 2004.

VERMONT ELECTRIC POWER COMPANY, INC.
AND
GREEN MOUNTAIN POWER CORP.

By: Primmer & Piper, P.C.

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