# VERMONT SYSTEM PLANNING COMMITTEE

# ANNUAL REPORT TO THE PUBLIC SERVICE BOARD AND PUBLIC SERVICE DEPARTMENT

# JANUARY 15, 2008

## INTRODUCTION

In accordance with the Memorandum of Understanding (MOU) approved by the Public Service Board in Docket 7081, this document comprises the annual report of the Vermont System Planning Committee (VSPC). The report provides an annual update on the status of consideration, through the VSPC and its related planning process, of non-transmission alternatives to address Vermont electric system reliability issues.

The Public Service Board opened Docket 7081 in response to concerns regarding the Northwest Reliability Project that there was insufficient time to adequately consider non-transmission alternatives. The Board's charge to participants in conducting Docket 7081 was to develop an approach to addressing transmission system reliability issues that would ensure "full, fair and *timely* consideration of cost-effective non-transmission alternatives."[1] The Board's requirements reinforced and extended provisions adopted by the legislature in Act 61 of the 2005 General Assembly requiring the Vermont Electric Power Company (VELCO) to institute a long-range planning process, the objective of which is "to identify the potential need for transmission system improvements as early as possible, in order to allow sufficient time to plan and implement more cost-effective non-transmission alternatives to meet reliability needs, wherever feasible."[2]

In response to the Board's direction in Docket 7081, most of the docket participants signed an MOU that established the VSPC and its related planning process, which was approved by the Board on June 20, 2007. Among its provisions, the Docket 7081 MOU requires, annually by January 15, commencing in 2008, that the VSPC provide a report to the Public Service Board (PSB or Board) and Department of Public Service (DPS), and post the report on the VSPC website, consisting of at least the following:

[1] Docket No. 6860, Order of 1/28/05 at 11, emphasis in original.
[2] 30 V.S.A. § 218c(d)(1).

89. A report on each Reliability Deficiency identified to date in the Plan or through the process described in Steps 1 through 6, above, including:

    i. The status of NTA [Non-Transmission Alternative] Analysis for the Reliability Deficiency.

    ii. The status of decision-making on the selection of alternative(s) to address the Reliability Deficiency.

    iii. The status of decision-making on the allocation of costs of the alternative to address the Reliability Deficiency.

    iv. The strategy chosen for implementing the alternative selected to address the Reliability Deficiency.

    v. The status of implementation of the alternative(s) to address the Reliability Deficiency.

    vi. All documentation pursuant to paragraph 86, above, relating to advisory votes within the preceding calendar year.[3]

90. A statement of the dates and locations of all VSPC meetings held during the preceding year.[4]

This document represents the 2008 VSPC annual report. It documents progress on the establishment of the VSPC and provides a status report on the analysis of non-transmission alternatives for identified reliability deficiencies.

## VSPC ESTABLISHMENT AND ORGANIZATION

The VSPC and related planning process constitute a substantial departure from the previous process, and perhaps an unprecedented approach nationally. The new process has a number of characteristics that, taken together, transform the way Vermont utilities interact with each other and the public in planning solutions to electric system reliability issues. These characteristics include:

- A transparent process that includes access by the public and participants to all aspects[5] of the VSPC's activities and information through a website and an effective meeting notice process.
- A formal structure for public involvement in the planning committee through formal Board appointment of three public members to the VSPC representing the interests of residential

[3] ¶ 86 requires the VSPC to take advisory votes to resolve disputes regarding determinations of affected utilities and cost allocation.
[4] Docket 7081 MOU at 35-36.
[5] The MOU treats information associated with the VSPC process as public information in accordance with 1 V.S.A. § 317, the Vermont public records law. By March 20, 2008, the VSPC must adopt and file with the PSB a protocol for handling information it believes should be exempt from public records access pursuant to one of the exemptions 1 V.S.A. § 317(c).

consumers, commercial and industrial consumers, and environmental protection respectively.

- A high level of public involvement in the planning process based on principles of effective public engagement that are spelled out in the MOU.
- A long-term planning horizon of 20 years. While Act 61 required a 10-year planning horizon, the MOU recognizes the need to go beyond this term, while also acknowledging that forecasts will be more precise in the first half of the 20-year cycle.
- The ability to take advisory votes regarding affected utility determinations, potential reliability deficiency solutions, and potential cost allocations through the committee's process.
- Procedures for facilitating assignment of responsibility for planning and implementation work through the committee's process.
- An explicit process for analysis and explicit standards for evaluation of cost-effective non-transmission alternatives to solving reliability deficiencies.
- A clearly established set of expectations and processes for coordination among stakeholders, including all utilities, public representatives, DPS, the Energy Efficiency Utility (EEU), and the Sustainably Priced Energy Enterprise Development (SPEED) Facilitator.
- Appropriate consideration of market-based approaches to assessing non-transmission alternatives, including market testing using RFPs or public solicitations of interest, as well as an open door policy for encouraging potential vendors to approach the participants to discuss projects.

The VSPC process is in the beginning stages of implementation. The Board issued its final order approving the Docket 7081 MOU that established the VSPC on June 20, 2007. Subsequently, on October 5, 2007, the Board appointed the Committee's public members representing the interests of residential consumers, commercial and industrial consumers, and environmental protection. [6] The remaining voting seats on the VSPC include representatives of all distribution utilities and VELCO. Non-voting participants include representatives of the DPS, and the entities contracted to serve as the statewide EEU and the SPEED facilitator. A list of VSPC members comprises Appendix A of this report.

The VSPC held its first meeting on October 16, 2007, at which members considered the committee's charge and approaches to organizational structure. At the initial meeting, participants determined that the formation of subcommittees would facilitate the work of the group. Seven subcommittees were formed, including: Technical Coordinating, Procedures, Transmission, Generation, Energy Efficiency & Forecasting, Non-Transmission Alternatives Screening, and Public Participation.

A second meeting of the VSPC was held on December 4, 2007, at which time rules of procedure were formally adopted. Representatives of the subcommittees reported on preliminary discussions

[6] The VSPC structure includes public members to represent three public interests: Environmental Protection, Residential Consumers and Commercial/Industrial Consumers. The PSB's October 5, 2007, appointments included representatives for each group, but alternates only for the Environmental interests. The PSB has indicated it continues to seek interested persons to fill the two open alternate slots.

of subcommittee responsibilities and were charged with further development of their "charters." The resulting draft subcommittee charters, revised based on VSPC input at its second meeting and discussion at subsequent subcommittee meetings, are attached as Appendix B. The VSPC will consider final approval of the subcommittee charters at its next scheduled meeting on March 11, 2008. The subcommittees include both voting representatives on the VSPC and other interested persons.

In the short period since approval of the MOU and appointment of VSPC members, the VSPC's initial focus has been on organization, however, the committee has begun to fulfill its responsibility for substantive review of non-transmission alternative (NTA) screening and analysis. Project study groups within the VSPC are being formed to look at specific reliability deficiencies and their NTAs, and subcommittees are beginning to review NTA screenings. The first full VSPC review of substantive projects and analyses will occur at the March 11, 2008, VSPC meeting.

As the VSPC has been in its formative stage, VELCO and the distribution utilities are proceeding with their obligations to conduct NTA screening and analysis. As required in MOU provisions outlining the content of the annual report, this report includes updates on the status of NTA analysis for all projects that are included in Attachment F of the MOU, as well as the reliability deficiencies that are identified in the Long Range Transmission Plan (LRTP) filed by VELCO July 1, 2006.

VSPC rules of procedure were formally adopted at the December 4, 2007, meeting, however the Procedures Subcommittee is continuing its work on drafting the protocol for document management. Following the March 11, 2008, VSPC meeting, the committee will formally submit the rules of procedure and the protocol to the Board, as required by ¶ 80 of the MOU.[7] Subcommittees continue to meet during the interim between full committee meetings. A schedule of all committee and subcommittee meetings forms Appendix C.

Docket 7081 MOU ¶ 69 requires that VELCO "provide administrative staff support to the VSPC and such staff shall be responsible in a timely manner to schedule VSPC meetings, prepare meeting agendas, minutes, and reports … create and maintain a VSPC website, and perform those other administrative tasks necessary to the functions assigned to the VSPC." In November, VELCO created a new position called Strategic System Planning Facilitator to facilitate the VSPC process. The facilitator, works with other VELCO staff, including an administrative assistant, a staff person responsible for website development and maintenance, and members of the VELCO planning team, to carry out VELCO's responsibility to support the VSPC.

One component of that support is the maintenance of a dedicated VSPC website, www.vermontspc.com, which is designed to track all aspects of the committee and subcommittee process. The site is currently being redesigned, with input from the Public Participation Subcommittee, to provide complete transparency for the VSPC process, through posting of all agendas, minutes, and meeting materials, as well as a portal for public access to information about the electric reliability, transmission and non-transmission alternatives. The redesign will utilize a SharePoint platform to provide maximum flexibility in the posting of relevant materials by subcommittee chairs and participants, thereby streamlining communication and coordination. The framework for the new site is attached as Appendix D.

[7] According to the provisions of ¶ 80, the procedures must be filed by March 20, 2008.

Other required deliverables that are currently under development and will be submitted in accordance with the MOU include:

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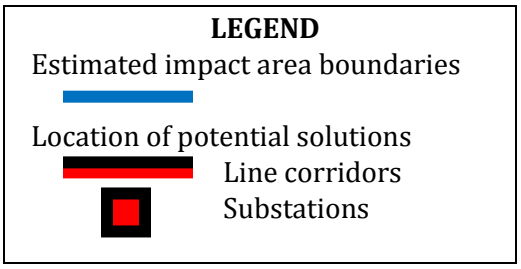
|---|---|
| 1/15/2008 | File annual report with PSB. |
| 3/20/2008 | File rules of procedure and protocol of document management with PSB. |
| 5/1/2008 | EEU to file estimates of 20-yr demand side management (DSM) savings with PSB. |
| 6/20/2008 | File screening tool for evaluating NTA with PSB. |
| 7/1/2009 | Complete the next transmission plan (Act 61). |
| 7/1/2009 | Evaluate new planning process –file report by 12/31/2009. |
| 7/1/2010 | Complete activities under steps 3 and 7—9 for transition plan, Attachment F of the MOU. |

## NTA ANALYSIS OF IDENTIFIED RELIABILITY DEFICITS

The following section is divided into two parts. The first part lists the status of reliability deficits that were included in Attachment F of the Docket 7081 MOU. The second section concerns reliability deficiencies that were identified in the July 1, 2006, VELCO LRTP. The discussion of each deficiency is accompanied by a map indicating the general area of the state impacted by the transmission issue and the approximate location of the lines or substations involved. These maps are intended only to provide the reader with a general geographical orientation and do not reflect affected utility determinations or engineering studies of precise boundaries of impact. The legend for all maps in the document is shown below.



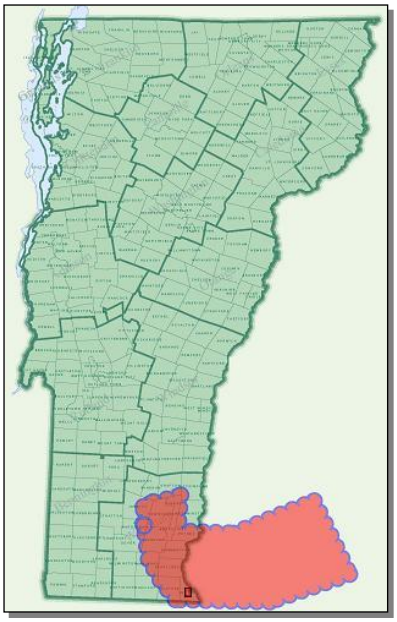

### MOU ATTACHMENT F PROJECTS

MOU Attachment F comprises a transition plan for the treatment of reliability deficiencies that had already been the subject of some analysis and planning prior to the adoption of the Docket 7081 MOU. The purpose of Attachment F was to delineate the degree to which these projects would be subject to, Step 3, Preliminary NTA Screening,[8] and to identify projects for which NTA screening, analysis, solution selection, implementation planning and cost allocation must be completed by July

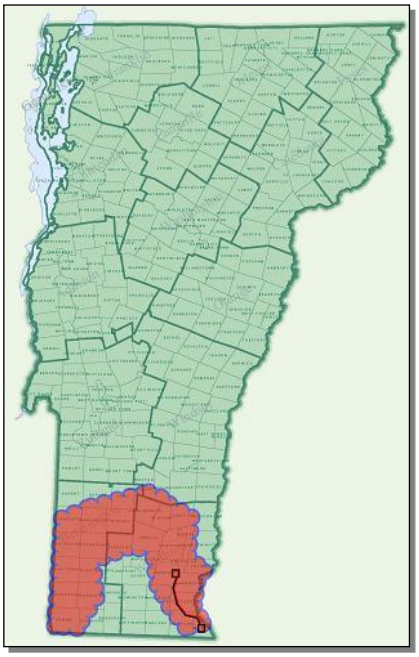
[8] Docket 7081 MOU ¶3.

1, 2010.[9] These provisions constitute exceptions to the timelines the MOU otherwise establishes. The following section describes the status of each reliability deficiency included in Attachment F.

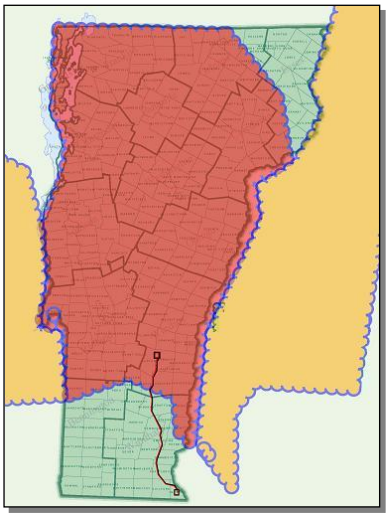
## SOUTHERN LOOP STUDY AREA AND COOLIDGE CONNECTOR



VELCO's LRTP and Central Vermont Public Service (CVPS) have identified several reliability deficiencies in the Southern Loop Study area. At the VELCO system level, they include potential loss of the 345/115 kV transformer at Vermont Yankee, which affects parts of New Hampshire, as well as Vermont. At the distribution utility, subsystem level, deficiencies in CVPS's system are associated with 46kV line contingencies between Bennington and Brattleboro, loss of 115/46 kV and 115/69 kV transformers into Bennington or Brattleboro at Woodford Road and Vernon Road, and loss of the N186, which has the same impacts as loss of transformers at Vernon Road. These impacts are localized to the 46 kV and 69 kV subsystem load between Brattleboro and Bennington.



Detailed NTA analysis for the Southern Loop Study Area was completed in September 2007 for the bulk system issues and in December 2006 for CVPS issues. Following extensive public involvement processes, VELCO and CVPS completed solution selection, for both bulk and subsystem deficiencies, and filed for Section 248 approval with the PSB in November 2007. The Board has opened Docket 7373 to consider the Southern Loop 248 petition.

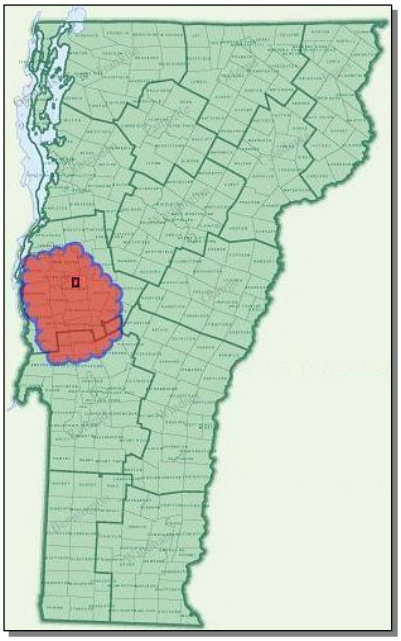


VELCO's studies found that loss of the Vermont Yankee to Coolidge 345 kV line (the "340 line") can have adverse impacts on significant portions of Vermont as well as portions of New York and New Hampshire. These adverse impacts can include overloaded transmission facilities, unacceptably low voltage and/or voltage/system collapse.

The proposal submitted to the Board in Docket 7373 includes a combination of upgrades required to solve the existing subsystem deficiencies, as well as the line known as the Coolidge Connector to solve regional reliability problems and to provide a new source to Brattleboro and the Southern Loop. The Coolidge Connector line is needed now, but likely cannot be completed until 2011.

[9] Docket 7081 MOU ¶ 31.

Although NTA solutions were determined not to be a feasible way to avoid or defer the Coolidge Connector, CVPS has asked the VSPC Technical Coordinating Subcommittee to form a project study group to consider implementing additional demand response that may increase system reliability before the line can be placed in service. Action on the recommendation will be taken by the VSPC at or before its next meeting, March 11, 2008.



## MIDDLEBURY STUDY AREA

VELCO and CVPS have identified reliability deficiencies in the Middlebury Study Area. VELCO system issues include the impacts of loss of the transformers at New Haven and Middlebury. The CVPS subsystem deficiency concerns contingencies on the 46 kV radial line from Salisbury to Weybridge.

NTA screening was completed by CVPS in July 2007 and resulted in the exclusion of NTAs for this project. The NTA screening and exclusion were presented to the VSPC Transmission Subcommittee at its December 10, 2007, meeting, resulting in an agreement that CVPS will update the data used in its analysis and present the update to the Subcommittee. The NTA screening and recommendation regarding exclusion of the Middlebury deficiencies from further NTA consideration will be presented to the full VSPC. Since this is the first project to move forward through the VSPC review process, the Technical Coordinating Subcommittee plans to utilize VSPC feedback from this experience to develop recommendations for the process of review for future projects.

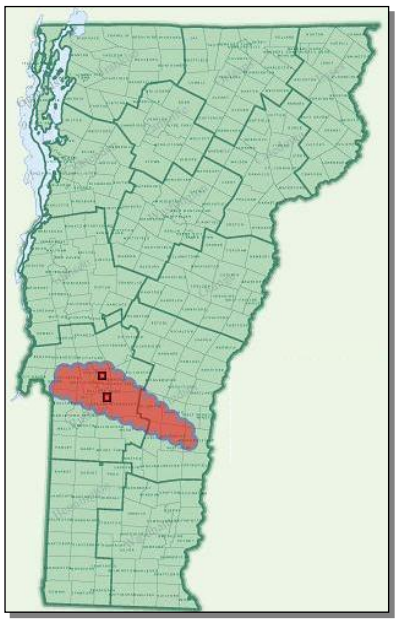
## ST. ALBANS-FAIRFAX-GEORGIA STUDY AREA

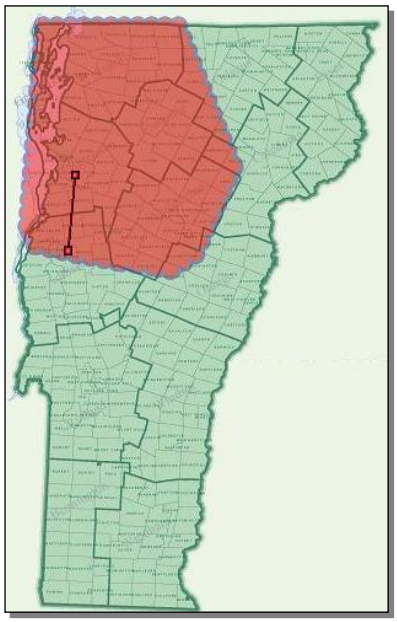
VELCO has identified reliability deficiencies associated with the potential loss of the St. Albans transformers and East Fairfax transformer at the subsystem level. Breaker failures at the Georgia substation affect the subsystem, and interrupt bulk power flows from Highgate south. At the subsystem level, CVPS has identified as reliability deficiencies the potential loss of the East Fairfax transformer, 34.5 kV line contingencies, and decommissioning of hydro facilities at Peterson Dam.

The scope of study for this group of reliability deficiencies has been completed, and transmission and distribution (T&D) analysis has been started. NTA screening has not yet been conducted. The utilities project presenting NTA analysis to the VSPC in May 2008, and solution selection, implementation plans, and cost allocation to the VSPC in May 2009.

## RUTLAND AREA/CENTRAL STUDY AREA

VELCO has identified bulk system reliability deficiencies associated with the overload of the Coolidge to Cold River 115 kV line, and loss of the Coolidge 345/115 kV transformer. Subsystem deficiencies are associated with loss of the North Rutland or Cold River transformers, and include inadequate all-lines-in service[10] due to load growth. Analysis has not yet been completed on these projects. The NTA analysis is projected to be presented to the VSPC in July 2008, and solution selection, implementation plans, and cost allocation to the VSPC in July 2009.





## NEW HAVEN/WILLISTON STUDY AREA

VELCO has identified potential overload of the New Haven to Williston 115 kV line as a reliability deficiency. No NTA analysis has yet been completed on this deficiency. VELCO projects presenting the NTA analysis to the VSPC in July, 2009, and solution selection, implementation plans, and cost allocation to the VSPC in July 2010.

## RELIABILITY DEFICIENCIES IDENTIFIED IN THE 2006 LONG-RANGE TRANSMISSION PLAN

The 2006 LRTP identifies 14 reliability deficiencies that are not addressed in Attachment F. Under the terms of the MOU, the VSPC must develop a priority list for these projects that establishes a timeframe for completion of the steps in the MOU. The VSPC prioritization must include: (a) the reason for the priority assigned to the deficiency; (b) if no likely transmission solution has yet been identified, the date by which further analysis of transmission solutions to the deficiency is proposed to be completed; (c) the date by which NTA analysis is proposed to be completed; and (d) the date by which a decision will be made concerning solution

[10] "All-lines-in service" refers to the system functioning as designed with no contingencies.

selection, implementation strategy, and cost allocation.[11] Once established, this list will guide the further consideration of the projects it addresses.

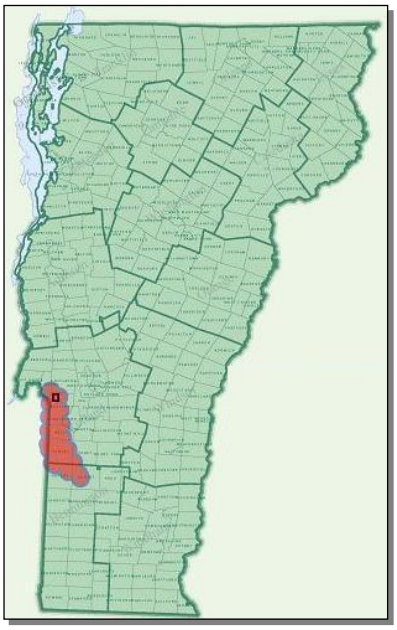
An initial draft of the project list required by ¶ 51 was presented to the VSPC on October 16, 2007, and an updated version was presented December 4, 2007. The VSPC has not yet formally adopted a priority list, but will do so in 2008. Once the list is adopted by the Committee, it will be submitted to the Board in accordance with ¶ 51. The following section summarizes the status of reliability deficiencies that were identified in the 2006 LRTP, but were not addressed in Attachment F of the MOU. These matters, together with the Attachment F list, will be included in the priority and timeline document to be submitted by the VSPC in 2008.

## LOSS OF ST. JOHNSBURY 115/34.5 KV TRANSFORMER

The loss of the St. Johnsbury transformer would result in the loss of all load at St. Johnsbury. This reliability deficiency is a CVPS subsystem issue. Proposed load growth at Burke Mountain, fed off Lyndonville Electric, prompted the completion of a first draft transmission analysis for this area in October 2007. The transmission solutions examined in the analysis conducted thus far are to install a second 115/34.5 kV transformer at St. Johnsbury with requisite substation expansion or the construction of a new substation, with one or two transformers, closer to the Lyndonville 34.5 kV feed. This project will be brought to the VSPC in 2008.

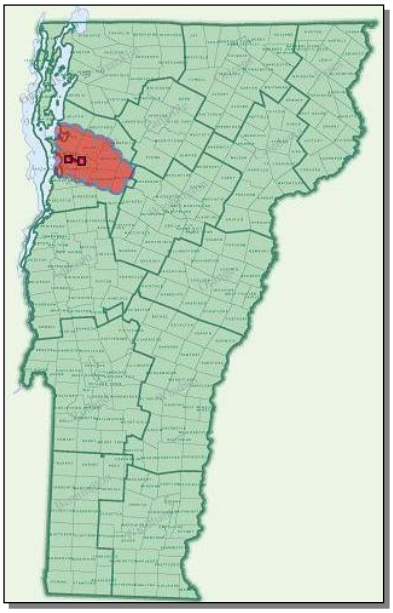
## LOSS OF WEST RUTLAND-BLISSVILLE 115 KV LINE

The loss of the West Rutland-Blissville 115 kV line would cause unacceptable low voltage locally. This reliability deficiency is a CVPS subsystem issue. The transmission solution examined in the analysis conducted thus far is to install 16.2 MVAR of capacitor banks at Blissville. CVPS will apply the NTA screening tool to the project to determine whether it is applicable to the VSPC process.



[11] Docket 7081 ¶ 51. However, ¶ 102 further modifies the applicability of MOU provisions to the area-specific collaborative addressing Tafts Corners and the City of Burlington waterfront.

## LOSS OF ONE ESSEX 115/34.5 KV TRANSFORMER (EAST AVENUE)



Loss of one Essex 115/34.5 kV transformer may overload the other resulting in load shedding. This is a Green Mountain Power subsystem issue that was studied as part of the Burlington Waterfront area-specific collaborative, which looked at reliability concerns within the city of Burlington and in northern Chittenden County.

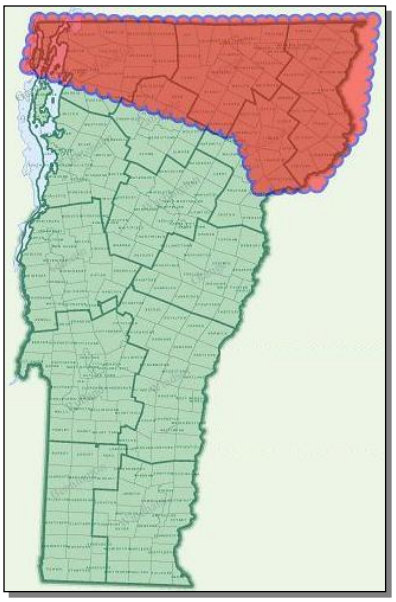
The Burlington Waterfront Area Specific Collaborative ultimately identified a three-phase plan for upgrading the transmission and subtransmission system in the area. Green Mountain Power (GMP), VELCO and Burlington Electric Department (BED), have applied for Section 248 approval in Docket 7314 for Phase I of the identified upgrades. GMP and VELCO recently began preparation to file for Phase II, (also known as the Gorge Area Reinforcement project or GAR), which will involve a new VELCO substation in the vicinity of GMP's existing Gorge substation.

Although GMP and VELCO will perform an analysis of non-transmission alternatives and conduct public outreach in affected towns, the timing of implementation of VSPC procedures will not allow GMP and VELCO to observe all of the VSPC planning phases for GAR prior to the required filing date for the GAR petition. Phase III, which is anticipated to be needed in the 2016 timeframe, dependent upon actual load growth, would involve replacement of the Essex transformers. Phase I has been filed for approval and will not be presented to the VSPC for review. Phases II and III will move forward as appropriate, based on the triggers related to load level identified in the area-specific collaborative.

## LOSS OF HARTFORD 115/46 KV TRANSFORMER

Loss of the Hartford 115/46 kV transformer could cause unacceptable low voltages locally. The transmission solution examined in the analysis conducted thus far is installation of a second 115/46 kV transformer at Hartford with requisite substation expansion. This is a CVPS subsystem issue that will be revisited in the 2009 study cycle.

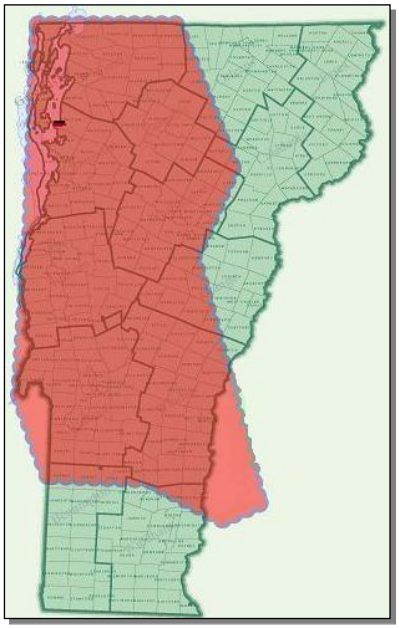
## LOW VOLTAGE OR VOLTAGE COLLAPSE IN NORTHERN VERMONT FOR LOSS OF TRANSMISSION AT EITHER END



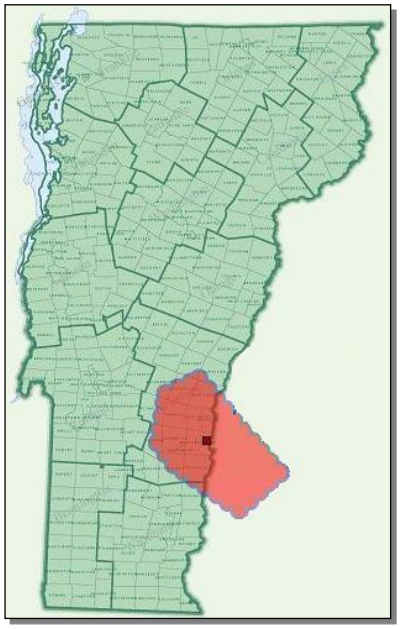
The potential for low voltage or voltage collapse in northern Vermont due to loss of transmission at either end of the state will begin to be addressed as part of the Lyndonville study listed above. The transmission solution examined in the analysis conducted thus far is installation of a reactive power device at the VELCO Irasburg substation with requisite substation expansion. The Lyndonville study proposes to improve the voltage by installing capacitor banks. This is primarily a bulk system issue that is the responsibility of VELCO.

## LONG-TERM LOSS OF PV20 UNDERGROUND CAUSEWAY CABLE

Long-term loss of the PV20 underground causeway cable, with many other outages, can cause severe and widespread voltage and thermal concerns. The transmission solution examined in the analysis conducted thus far is to install a second parallel PV20 causeway underground cable. This is a bulk system issue that is the responsibility of VELCO. The planning study has not yet begun. VELCO will revisit the issue in the 2009 study cycle.



## BREAKER FAILURE AT ASCUTNEY SUBSTATION

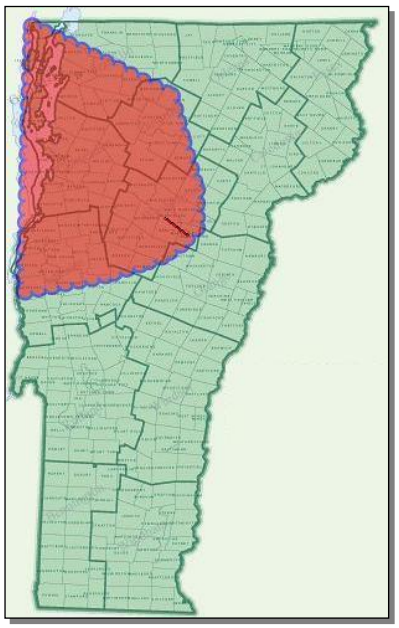


Breaker failure at the Ascutney substation would result in unacceptable voltage and thermal performance locally. The transmission solution examined in the analysis conducted thus far is to improve the Ascutney substation from the current radial bus configuration to a breaker-and-a-half configuration with 115 kV capacitor banks and a second 115/46 kV transformer. This is primarily a bulk system issue that is the responsibility of VELCO and CVPS. The planning study has not yet begun and will be undertaken in the 2009 study cycle.

## LOSS OF WILLISTON TO TAFTS CORNERS 115 KV LINE

Loss of the Williston to Tafts Corners 115 kV line, with heavy flows from south to north, would overload the Queen City 115/34.5 kV transformer. The transmission solution examined in the analysis conducted thus far is to install a second 115/34.5 kV transformer at Queen City with requisite substation expansion. An alternative would be to sectionalize the underlying network. This is primarily a bulk system issue that is the responsibility of VELCO and GMP. These constraints have been addressed by a proposal to automatically sectionalize the 34.5 kV system. Consequently no additional upgrades are needed at this time and no consideration by the VSPC will be required.

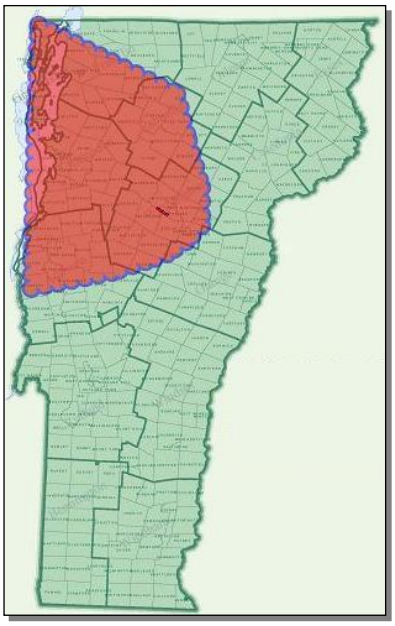
## LOSS OF BARRE TO BERLIN 115 KV LINE

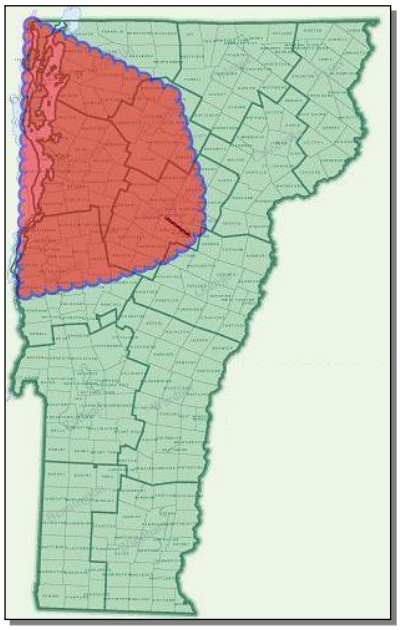


The loss of the Barre to Berlin 115 kV line section, when heavily loaded from east to west, would overload the Berlin transformer. The transmission solution examined in the analysis conducted thus far is to install either a larger transformer or a second 115/34.5 kV transformer at Barre with requisite substation expansion. An alternative would be to sectionalize the underlying network. This is primarily a bulk system issue that is the responsibility of VELCO and GMP. These constraints have been addressed by a proposal to automatically sectionalize the 34.5 kV system. Consequently no additional upgrades are needed at this time and no consideration by the VSPC will be required.

## LOSS OF BERLIN TO MIDDLESEX 115 KV LINE

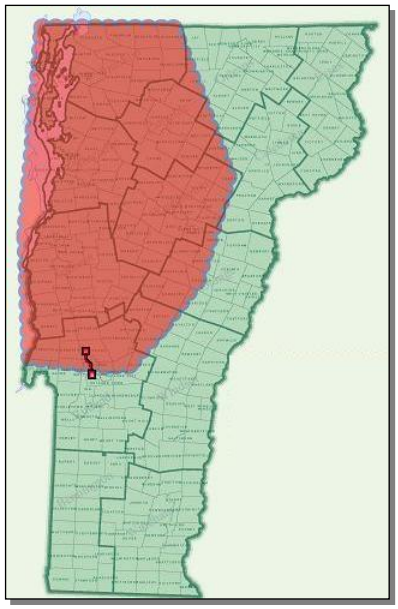
The loss of the Berlin to Middlesex 115 kV line section, when heavily loaded from east to west, would overload the Berlin transformer. The transmission solution examined in the analysis conducted thus far is to install a second 115/34.5 kV transformer at Berlin with any requisite substation expansion. An alternative would be to sectionalize the underlying network. This is primarily a bulk system issue that is the responsibility of VELCO and GMP. These constraints have been addressed by a proposal to automatically sectionalize the 34.5 kV system. Consequently no additional upgrades are needed at this time and no consideration by the VSPC will be required.





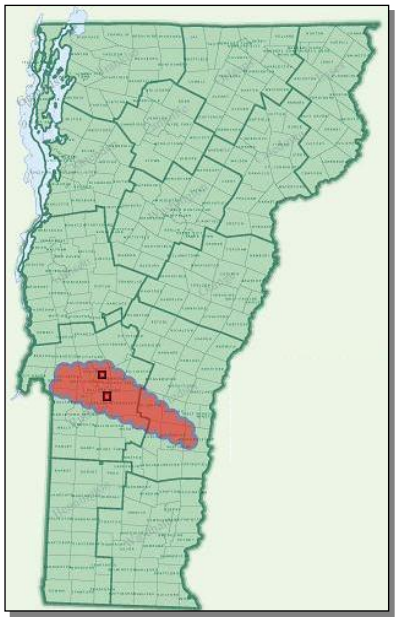
## OVERLOAD OF BARRE TO BERLIN 115 KV LINE

Overload of the Barre to Berlin 115 kV line has been identified as a reliability deficiency at load levels projected to be reached in 2016. The transmission solution examined in the analysis thus far is to rebuild the Barre to Berlin line. This is a bulk system issue that is the responsibility of VELCO and will be addressed in the 2009 study cycle.



## OVERLOAD OF FLORENCE TO WEST RUTLAND 115 KV LINE.

Overload of the Florence to West Rutland 115 kV line has been identified as a reliability deficiency at load levels projected to be reached in 2016. The transmission solution examined in the analysis thus far is to rebuild the line. This is a bulk system issue that is the responsibility of VELCO and will be addressed in the 2009 study cycle.



## OVERLOAD OF COLD RIVER TO NORTH RUTLAND 115 KV LINE

Overload of the Cold River to North Rutland 115 kV line has been identified as a reliability deficiency at load levels projected to be reached in 2016. The transmission solution examined in the analysis thus far is to rebuild the line. This is a bulk system issue that is the responsibility of VELCO and will be addressed in the 2009 study cycle.

APPENDIX A: VSPC MEMBERSHIP.

# VSPC Representatives and Alternates

As of 1/3/08

| **PUBLIC MEMBERS** | **Primary Representative** | **Alternate Representative** |
|---|---|---|
| Residential | Jenny Cole | |
| Commercial and Industrial | Janette Bombardier (IBM) | |
| Environmental | James Moore (VPIRG) | Sandra Levine (CLF) |
| **TRANMISSION UTILITY** | **Primary Representative** | **Alternate Representative** |
| VELCO | Hantz Présumé | Dean LaForest |
| **DUs PROVIDING TRANSMISSION** | **Primary Representative** | **Alternate Representative** |
| Central Vermont Public Service | Bruce Bentley | Kim Jones |
| Green Mountain Power | Douglas Smith | Terry Cecchini |
| Vermont Electric Cooperative | Harry Abendroth | Wayne Atkinson |
| **LG TRANSMISSION DEPENDENT DUs** | **Primary Representative** | **Alternate Representative** |
| Burlington Electric Department | Munir Kasti | Ken Nolan |
| Vermont Marble | Todd Allard | |
| Washington Electric Coop | Bill Powell | |
| **TRANSMISSION DEPENDENT DUs** | **Primary Representative** | **Alternate Representative** |
| Barton Village Electric Department | Ron Gagnon | Brian Hanson |
| Village of Enosburg Falls Water & Light Department | Jonathan Elwell | Richard Roberge |
| Town of Hardwick Electric Department | | |
| Village of Hyde Park Electric Department | | |
| Village of Jacksonville Electric Company | | |
| Village of Johnson Water & Light Department | Duncan Hastings | Steve Towne |
| Village of Ludlow Electric Department | Jack Collins | |
| Village of Lyndonville Electric Department | Kenneth Mason | Bill Humphrey |
| Village of Morrisville Water & Light Department | Craig Myotte | Jim Fontaine |
| Village of Northfield Electric Department | Richard Suitor | Nanci Allard |
| Village of Orleans Electric Department | | |
| Town of Readsboro Electric Light Department | | |
| Town of Stowe Electric Department | Ellen Burt | Pat Householder |
| Swanton Village Electric Department | George Lague | Lynn Paradis |
| **NON-VOTING MEMBERS** | **Primary Representative** | **Alternate Representative** |
| Public Service Department | Riley Allen<br>Bill Jordan<br>Dave Lamont<br>Steve Litkovitz<br>Hans Mertens<br>Doug Thomas<br>Steve Wark | |
| Energy Efficiency Utility | Blair Hamilton | |
| Sustainably Priced Energy Enterprise Development Facilitator | John Spencer (VEPPI) | |
| Strategic System Planning Facilitator | Deena Frankel (VELCO) | |

## APPENDIX B: VSPC DRAFT SUBCOMMITTEE CHARTERS.

### TECHNICAL COORDINATION SUBCOMMITTEE, RILEY ALLEN (DPS), INITIAL CHAIR.

The Technical Coordinating Subcommittee of the Vermont System Planning Committee was created at the initial meeting of the group to act as a bridge between the various other subcommittees and to explore crosscutting and overlapping issues that may come before the other committees. The Technical Coordinating Subcommittee can serve as a microcosm of the whole process; it can allow something short of having to convene the whole VSPC to get some guidance and direction on an issue. Overall charge of this group would be to coordinate and ensure that the standing subcommittees and project study groups are working in a coordinated and positive way.

A secondary role for this committee would be to cover cross-cutting issues that are not neatly placed in one of the other committees. This committee could also serve as an ad hoc filter for the work of other committees before it gets to the VSPC. Specific tasks include:

Provide guidance on all cross-cutting detailed technical assumptions.

Help to set work priorities of the other subgroups to fit the needs of other committees.

Would serve as a bridge between the individual utilities and the subgroups on issues that affect more than one subgroup (so that tasks can be efficiently passed forward).

Review the assignments/responsibilities of the other standing subcommittees for overlap and/or gaps.

Frame for VSPC consideration issues of general concern such as equivalence and cost allocation.

Recommend additional subcommittees or project study groups.

### PROCEDURES SUBCOMMITTEE, DAVID MULLETT (VPPSA), CHAIR.

Draft and modify as necessary the procedural rules and information management protocol of the VSPC.

### NTA SCREENING TOOL SUBCOMMITTEE, BRUCE BENTLEY (CVPS), CHAIR.

Develop a preliminary screening tool by July 2008.

### FORECASTING & ENERGY EFFICIENCY SUBCOMMITTEE, RILEY ALLEN (DPS), CHAIR.

The Forecasting Subcommittee was created to provide the VSPC with technical guidelines for performing load forecasts, especially with regard to the incorporation of demand side management (DSM) and demand response (DR) programs into forecasts of energy and peak load. This subcommittee will specifically be responsible for the following:

Guide the development baseline (before DSM or load management) forecasts of area-specific or statewide need (load) determinations.

Guide the development of appropriate methods for integrating the effects of planned, proposed, or possible future DSM and DR on area-specific or statewide load forecasts.

Identify appropriate techniques for characterizing the confidence of likelihood of loads being projected (e.g., adjustments for weather conditions).

Identify appropriate complementary data sources, such as building permits/applications, sewer and water capital budgets that may inform the forecasts.

Identify appropriate ways to share information the relevant constrained areas, the relevant loads, and the impacts of energy efficiency programs and DR on the constrained areas (will require some coordination with the Transmission subcommittee and Project Study groups and VELCO or individual utilities).

Integrate/reconcile the forecasts and NTA analysis with the work of ISO-NE and other groups that may be relevant.

For purposes of the proposed guidelines, DSM and load management practices relevant to these guidelines shall include all resources on the customer side of the meter, including net metered projects, customer-sited CHP projects, and customer, utility or third-party initiated activities to limit or replace load during peak periods or periods relevant to issues surrounding transmission and distribution investments.

This subcommittee will not actually generate forecasts. This will be the work of the project area subgroups, individual utilities, VELCO and the EEU (for DSM forecasts) informed and guided by this subcommittee's recommendations. In short, the responsibility of this subcommittee is to provide guidance, standards, and best practices for developing baseline forecasts (pre-DSM, DR), integrating DSM and DR, and addressing issues of risk and uncertainty in determining the need for specific projects.

**GENERATION SUBCOMMITTEE, JAMES GIBBONS, (VPPSA), CHAIR.**

Develop generic generation costs and market revenues related to each potential generation resource for input to the screening tool to be filed by 6/20/08.

Develop criteria and standards to help identify when review of specific generation option should be included (or excluded) in detailed NTA analyses.

Review and assess the reasonableness of the generation assumptions for new and existing resources in VELCO's load flow model.

Act as a sounding board for detailed generation analyses related to specific projects.

Act as the entity that receives and evaluates the impacts of "open door" proposals within the VSPC, and provide VELCO with recommendations related to inclusion of such proposals in the long range transmission planning assumptions.

**TRANSMISSION SUBCOMMITTEE, HANTZ PRÉSUMÉ (VELCO), CHAIR.**

Update electric system model (load, generation, topology).

Advise the VSPC and relevant subcommittees regarding transmission planning studies including:

Assumptions regarding load, generation, and system topology.

Criteria that dictate how to evaluate system performance.

Solutions to mitigate system concerns identified.

Review and monitor system performance and other concerns that are not project specific, and recommend solutions as appropriate.

Advise the VSPC regarding preliminary and detailed NTAs that would defer or avoid a transmission solution in whole or in part (i.e., a hybrid NTA/transmission solution).

Advise the VSPC regarding the viability of NTAs as a solution to the reliability concern to be addressed.

Advise the VSPC regarding the parameters of an NTA that would meet criteria, and therefore postpone the transmission solution.

Advise the VSPC regarding parameters of an NTA that would achieve equivalence with the transmission solution.

Advise the VSPC regarding affected utilities.

Provide data for preparation of the annual report.

### PUBLIC PARTICIPATION SUBCOMMITTEE, JENNY COLE (PUBLIC MEMBER, RESIDENTIAL), CHAIR.

The role of the VSPC Public Participation Subcommittee is to act as a resource in the development, implementation and evaluation of public involvement with the Vermont System Planning Committee (VSPC). The Subcommittee will provide its analysis and input to the full VSPC in all matters within the public participation arena. Specific roles include:

- Consulting with VELCO in planning public involvement in the Long-Range Transmission Plan (Step 5).
- Consulting with affected utilities (including VELCO) in public involvement in the project-specific Detailed NTA Analysis (Step 8) and Solution Selection (Step 9).
- Monitoring VSPC-related public outreach to ensure it is designed and implemented consistent with the principles in ¶¶ 91-97.
- Continually reviewing and evaluating experiences with public involvement on energy-related issues of the VSPC and other groups, and incorporating lessons learned.
- Providing oversight of communications (website, media, etc.) regarding the work of the VSPC to ensure clarity, comprehensiveness and transparency of the VSPC process to two distinct target audiences: committee and subcommittee members (internal communication); and the public (external communication).

## APPENDIX C: SCHEDULE OF VSPC COMMITTEE AND SUBCOMMITTEE MEETINGS.

| **Vermont Systems Planning Committee Meeting Schedule** | |
|---|---|
| Updated: 1/04/08 | |
| **OCTOBER, 2007** | **Meeting Dates:** |
| **VSPC Full Committee** | **Oct. 16, 2007** |
| **Procedures Subcommittee** | **Via email (Oct.- Nov., 2007)** |
| **NOVEMBER, 2007** | **Meeting Dates:** |
| **Generation Subcommittee** | **Nov. 6, 2007** |
| **Technical Coordinating Subcommittee** | **Nov. 6, 2007** |
| **Forecasting Subcommittee** | **Nov. 13, 2007** |
| **NTA Screening Tool Subcommittee** | **Nov. 16, 2007** |
| **Transmission Screening Subcommittee** | **Nov. 19, 2007** |
| **Public Participation Subcommittee** | **Nov. 27, 2007** |
| **DECEMBER, 2007** | **Meeting Dates:** |
| **VSPC Full Committee** | **Dec. 4, 2007** |
| **Transmission Screening** | **Dec. 10, 2007** |
| **NTA Screening Tool Subcommittee** | **Dec. 14, 2007** |
| **Public Participation Subcommittee** | **Dec. 19, 2007** |
| **Forecasting Subcommittee** | **Dec. 31, 2007** |
| **JANUARY, 2008** | **Meeting Dates:** |
| **VSPC Full Committee (by phone)** | **Jan. 8, 2008** |
| **Forecasting Subcommittee** | **Jan. 9, 2008** |
| **Technical Coordinating Subcommittee** | **Jan. 11, 2008** |
| **Joint Forecasting & Transmission Subcommittees** | **Jan. 14, 2008** |
| **NTA Screening Tool Subcommittee** | **Jan. 23, 2008** |
| **Technical Coordinating Subcommittee** | **Jan. 30, 2008** |
| **FEBRUARY, 2008** | **Meeting Dates:** |
| **Public Participation Subcommittee** | **Feb. 20, 2008** |
| **March, 2008** | **Meeting Dates:** |
| **VSPC Full Committee** | **Mar. 11, 2008** |

## APPENDIX D: FRAMEWORK FOR REDESIGN OF VSPC WEBSITE.

**HOME PAGE**

**[Note: the bullets on the left will be rollover buttons]**

# Vermont System Planning Committee

Header links: search box, contact us
Breadcrumbs

What is the VSPC?
- Intro/purpose
- Act 61
- Docket 7081 order and settlement
- Further backgound

Vermont's Electric System
- Electricity 101
- Utilities
- Transmission
- Non-transmission alternatives

VSPC Meetings*
- Calendar [same as sub cal]
- Agendas, minutes & materials
- Directions to meetings

VSPC Subcommittees*
- Calendar [same as com cal]
- Technical Coordinating
- Energy Efficiency & Forecasting
- Generation
- Transmission
- NTA Screening
- Procedures
- Public Participation
- Ad Hoc and Project Committees

VSPC Membership*
- Committee
- Subcommittees

## WELCOME

Welcome to the Vermont System Planning Committee (VSPC) website. This site provides a way for committee members and the public to follow the work of the committee. It also serves as a resource for people who are interested in learning more about electric reliability, transmission needs and alternatives to transmission projects in Vermont.

## WHAT'S NEW

Next meeting of VPSC, March 11, 2008, location to be announced.

**I want to:**

Learn about Vermont's electric system

Find out who is on the VSPC

Learn whether transmission projects may be planned in my area

Attend a VSPC meeting

Contact the VSPC

| | | |
|---|---|---|
| • Projects<br><br>System Projects (Links)<br><br>Resources (Links)<br><br>Contact us | | |
| Footer: VSPC, VELCO, address, phone, email.<br>*The Vermont System Planning Committee is an independent entity created to ensure full, fair and timely consideration of cost-effective non-transmission alternatives to addressing electric system reliability issues. VELCO provides administrative support to the VSPC in accordance with the Public Service Board's order in Docket 7081.* | | |

**What is the VSPC?/Introduction/Purpose**

# Vermont System Planning Committee

Header links: search box, contact us

Breadcrumbs

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VSPC Membership*
- Committee
- Subcommittees

## WHAT IS THE VSPC? INTRODUCTION AND PURPOSE

The Vermont System Planning Committee (VSPC) was created by a Vermont Public Service Board order issued June 20, 2007. The Committee and its associated planning process make up a new approach to addressing reliability issues in Vermont's electric transmission system. The process is designed to facilitate full, fair and timely consideration of cost-effective non-transmission alternatives to new transmission projects. The Committee increases collaboration among utilities, lengthens the planning horizon to be sure there is time to fully consider all alternatives, increases transparency of the process, and involves the public in decisions about alternatives.

The members of the VSPC include: representatives of each Vermont electric distribution and transmission utility; and three public member representing the interests of residential consumers, commercial and industrial consumers, and environmental protection respectively. In addition three non-voting members participate in the VSPC, including Vermont's Energy Efficiency Utility, the Sustainably Priced Energy Enterprise Development Facilitator, and the Vermont Department of Public Service.

The VSPC structure and planning process was developed through a settlement among most of the parties in Docket 7081, the Public Service Board's investigation of least-cost integrated resource planning for Vermont Electric Power Company, Inc.

**I want to:**

Learn about Vermont's electric system

Find out who is on the VSPC

Learn whether transmission projects may be planned in my area

Attend a VSPC meeting

Contact the VSPC

| | | |
|---|---|---|
| • Projects<br><br>System Projects (Links)<br><br>Resources (Links)<br><br>Contact us | | |

Footer: VSPC, Velco, address, phone, email.

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## VSPC Agendas, Minute & Materials

[Menu items marked * go to VSPC committee pages that include the right hand quick links menu

# Vermont System Planning Committee

Header links: search box, contact us
Breadcrumbs

What is the VSPC?

Vermont's Electric System

VSPC Meetings

VSPC Subcommittees

VSPC Membership

System Projects

Resources (Links)

Contact us

## VSPC MEETINGS

The VSPC meets at quarterly, rotating meeting locations among Randolph, Montpelier, Burlington and Rutland.

The links below provide a way to follow the meetings of the Committee. Links are also available to each VSPC subcommittee [links to VSPC Subcommittee page].

October 16, 2007
- Agenda
- Material
- Minutes

December 4, 2007
- Agenda
- Material
- Minutes

March 11, 2008
- Agenda
- Material
- Minutes

Schedule of future meetings

VSPC quick links:

VSPC

Technical Coordinating

Energy Efficiency & Forecasting

Generation

Transmission

NTA Screening

Procedures

Public Participation

Ad Hoc and Project Committees

Footer: VSPC, Velco, address, phone, email.

*The Vermont System Planning Committee is an independent entity created to ensure full, fair and timely consideration of cost-effective non-transmission alternatives to addressing electric system reliability issues. Velco provides administrative support to the VSPC in accordance with the Public Service Board's order in Docket 7081.*

## APPENDIX E: GLOSSARY OF ACRONYMS USED IN THE REPORT.

| | |
|---|---|
| BED | Burlington Electric Department |
| CVPS | Central Vermont Public Service |
| Docket 7081 | Vermont Public Service Board case in which the VSPC was established |
| DPS | Vermont Department of Public Service, the ratepayer advocate before the Public Service Board |
| DSM | Demand side management, actions taken to reduce or change the timing of electric energy consumption by consumers |
| EEU | Energy Efficiency Utility, the entity contracted with the Public Service Board to provide electric energy efficiency services statewide |
| GMP | Green Mountain Power |
| kV | Kilovolts, a measure of electrical potential that equals 1,000 volts |
| LRTP | Long Range Transmission Plan |
| MOU | Memorandum of Understanding or settlement |
| MVAR | MegaVAR. VAR stands for Volt-Amperes Reactive, which is a measure of reactive power |
| NTA | Non-transmission alternative. |
| PSB | Vermont Public Service Board |
| PV20 | The transmission line that extends from Milton, Vermont, to Plattsburgh, New York |
| RFP | Request for proposal |
| SPEED | Sustainably Priced Energy Enterprise Development, a program established in Title 30, Subsection 8005 of the Vermont Statutes |
| T&D | Transmission and distribution |
| V.S.A. | Vermont Statutes Annotated |
| VELCO | Vermont Electric Power Company |
| VSPC | Vermont System Planning Committee |