

Vermont System Planning Committee

Ensuring full, fair and timely consideration of non-transmission alternatives to address Vermont electric system reliability challenges.



**QUARTERLY MEETING
JUNE 10, 2009
9:30 A.M. – 4:00 P.M.
CAPITOL PLAZA HOTEL
MONTPELIER, VERMONT**

Energy Efficiency & Forecasting



- Subcommittee meeting scheduled for June 4, 2009.
- Materials to be follow under separate cover following the meeting.
- Subcommittee is expected to recommend action on how to address the requirement of Attachment F, Docket 7081 MOU, for the VSPC to conduct a statewide DSM potential study in 2010.

Procedures Subcommittees—Confidentiality Agreement



- **History of the issue**
 - Need to develop VSPC confidentiality agreement per Information Protocol.
 - VELCO determined the Technical Analysis contained Critical Energy Infrastructure (CEII) based on evolving federal rules and audit risk.
 - Absent a VSPC agreement, VELCO offered its own confidentiality agreement for the Technical Analysis. No CEII contained in the Public Review Draft of the plan.
 - Procedures Subcommittee now working to complete VSPC confidentiality agreement for future CEII issues.
- **Next steps: Draft agreement to VSPC in September**

Public Participation Subcommittee



Follow up on the public outreach process for the 2009 Vermont Long-Range Transmission Plan – Public Review Draft:

- [Final Report](#) from the Snelling Center on the Public Outreach process (not including appendices)
- Materials from sessions are posted at <http://www.velco.com/publicoutreach>
- Discussion: feedback from VSPC members who participated in one or more of the six public forums

Technical Coordinating – ISO follow-up



- Follow-up on VSPC letter to ISO-NE regarding parity treatment of NTAs.
 - Draft [invitation letter](#) in meeting package.
 - [CLF suggestion](#) to invite FERC Commissioner Wellinghof in meeting package.
- Action item: approval of invitation letter

Technical Coordinating – VSPC Public Member Slots



- Public Service Board question of how they can help fill the empty slots.
- Richard Suitor [suggestions](#) for changes in public sector membership structure.
- Are any actions (or standards) needed regarding VSPC member attendance? If a representative is unable to attend regularly, should there be a provision for replacement?
- Possible recommendation to the Public Service Board of a Sierra Club representative.

Technical Coordinating – Proposed 2010 meeting dates



- **March 10, 2010 – Randolph, Vermont**
- **June 9, 2010 – Montpelier, Vermont**
- **September 8, 2010 – Rutland, Vermont**
- **December 8, 2010 – Burlington, Vermont**

Equivalence and NTA Screening



- **This item will be taken up at 1 p.m.** to accommodate guests.
- **Background:**
 - For some time, a conversation has been taking place at meetings and among members concerning standards for equivalence of non-transmission alternatives.
- **The issue is important for multiple reasons:**
 - Confidence in the VSPC process
 - Viability of NTAs as reliability solutions
 - Utility of the NTA screening tool
- **Purposes of the agenda item:**
 - Develop a common understanding of the questions at stake.
 - Outline a path within the VSPC to reach conclusions about implications for the VSPC process.
- **Lawrence Mott, of New Generation Partners, has been invited to help identify a balance of expert resources for future discussions in the VSPC and subcommittees.**



50 YEARS as *Vermont's Transmission Reliability Resource*

Moving Power. Moving Forward.



**Framing the issue of Non-Transmission
Alternative Equivalence:
The Transmission Planners' Perspective**

VSPC QUARTERLY MEETING
JUNE 10, 2009

Purposes

To establish a basis within the VSPC for further discussion of “equivalence” between transmission and non-transmission based on:

- The definition of equivalence in the MOU.
- How VELCO interprets the definition.
- Other questions VELCO considers in evaluating NTAs.

Equivalence Definition from MOU

“Equivalence” means that an option consisting of non-transmission, and potentially Transmission, elements eliminates violations of design and operating criteria for the power system to approximately the same level as the Transmission-only option that otherwise would be constructed to eliminate those violations, for the same set of studied system conditions, over the time the likely transmission-only option would be avoided or deferred. This determination of equivalence will take into account availability of all facilities being considered to address the Reliability Deficiency.

Definition components

1. ...eliminates violations of design and operating criteria for the power system to approximately the same level as the Transmission-only option ...
2. ... for the same set of studied system conditions ...
3. ... over the time the likely transmission-only option would be avoided or deferred ...
4. This determination of equivalence will take into account availability of all facilities being considered to address the Reliability Deficiency.

What the components mean to VELCO

... eliminates violations of design and operating criteria for the power system to approximately the same level as the Transmission-only option ...

- The non-transmission alternative cannot “just” fix the problem if the transmission option goes beyond.
- E.g.: the transmission option removes a 20% overload with a 30% margin while the NTA provides only a 1% margin – not equivalent.

... for the same set of studied system conditions ...

- If the transmission solution removes the criteria violations under various load scenarios (peak, intermediate, light load), and the violations existed in those conditions, the NTA must also resolve the issues
- E.g.,: the transmission solution solves the reliability deficiency under high transfer conditions (high NE imports from NY) and the NTA does not, the NTA is not equivalent

What the components mean, contd.

... over the time the likely transmission-only option would be avoided or deferred ...

- An NTA's lifespan needs to be equivalent to the transmission solution.
- E.g.: the transmission solution has a 20 year life; the NTA has a 5 year life without added facilities (more NTA and/or transmission). The NTA is not equivalent but might be made so with a continual addition of resources over the same 20 year span.

This determination of equivalence will take into account availability of all facilities being considered to address the Reliability Deficiency.

- Transmission availability > 99.9% including outages. Generation availability can have values in the 90% to 98% range including outages. Multiple generators may be needed for equivalent availability.
- Corresponding availability values for DR (demand response) or energy efficiency are not measured nor known in the same fashion as generation and transmission

Other key questions transmission planners ask about NTAs

In evaluating whether an NTA is equivalent transmission planners also consider:

- How does the NTA actually perform (versus its “rating” or total capacity)?
- Will the alternative be online, available, and “ride through” an event on the transmission system, e.g, a faulted transmission line?

Questions specific to generation

- How have specific generation resources performed in past events?
- Is there a difference between the performance of utility-owned generation versus merchant generation?
- Where generation has not performed adequately as an NTA in real events, what are the causes?

Next steps after Long-Range Plan filing



- **Meetings to review NTA screenings contained in Long-Range Plan**
 - Beginning this summer
 - Convened by Technical Coordinating
- **Development of Project Priority List**
 - Transmission subcommittee input into draft
 - Approval sought at September VSPC meeting

Update on Economic Transmission



- Technical Coordinating Subcommittee discussed the value of including an update on Economic Transmission as a regular agenda item for VSPC quarterly meetings.
 - Does the VSPC concur?
- Update by Dean LaForest on proposals that would affect Vermont now before ISO-New England in following slides.



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**Economic Transmission in
New England
June 2009 Update**

***VSPC QUARTERLY MEETING
JUNE 10, 2009***

Outline



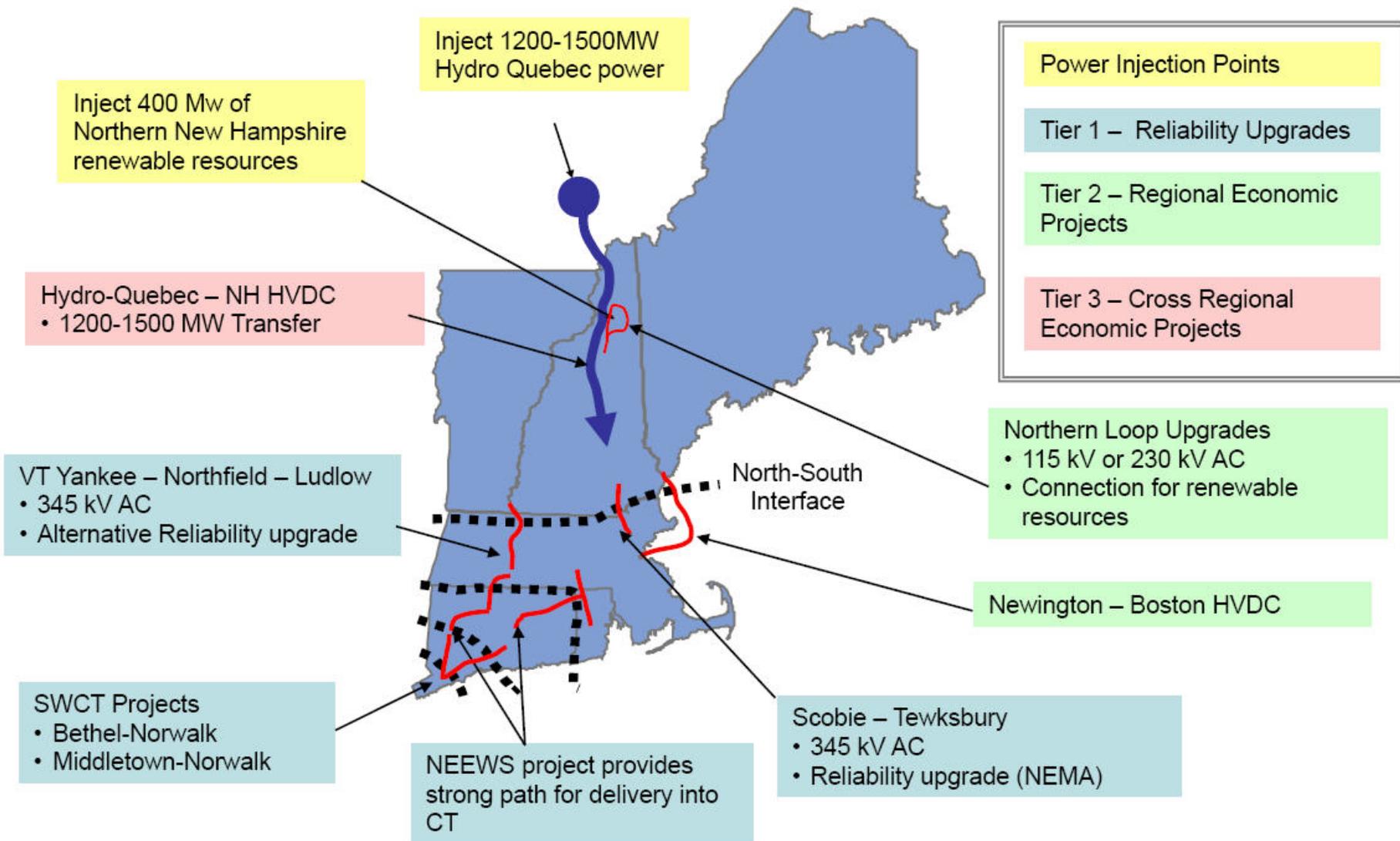
- **Recent economic transmission project developments**
- **Potential Vermont Impacts**
- **Questions**

Recent developments



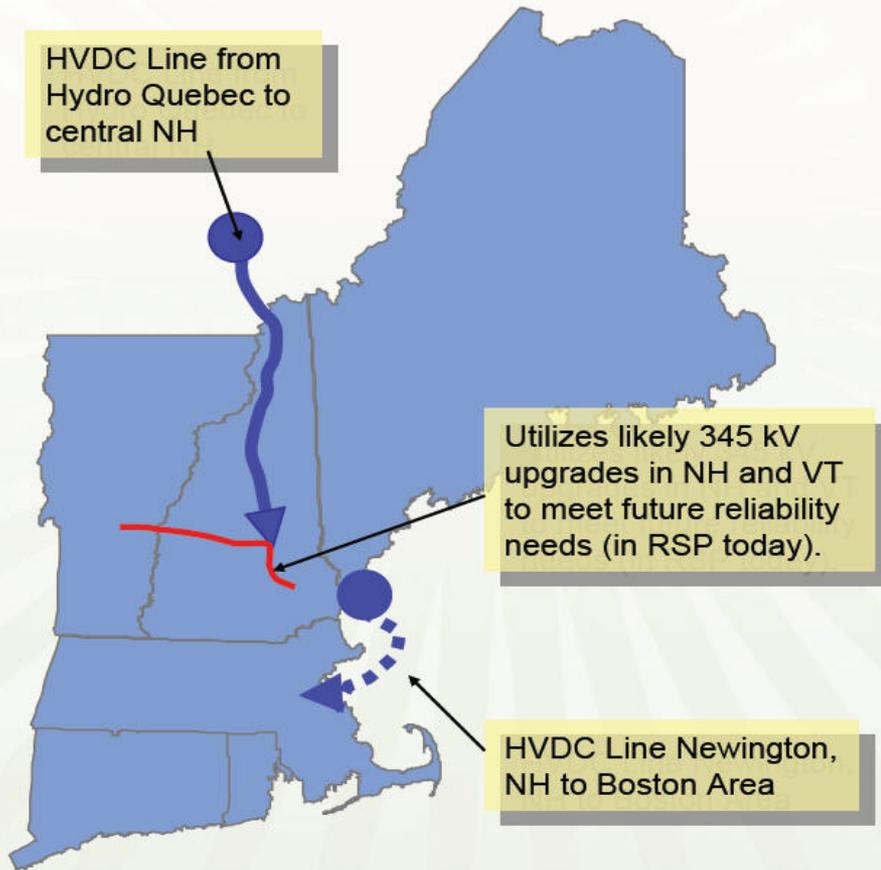
- **Northeast Utilities / Hydro Quebec DC import proposal**
 - 1200 MW project to import power into central NH
 - Recently received FERC approval for rate treatment
 - Regional discussions concerning the use of this project in concert with other transmission projects

Integrating Northern Solutions Projects with Other Important Regional Transmission Projects



Source: Northeast Utilities presentation titled "New England Renewable Resource Requirements and NU/NSTAR Proposed HVDC Transmission Line", dated April 7, 2009 – slide 15 – from the Spring EEI Transmission, Distribution and Metering conference

A Set of Complementary Projects with Tangible Benefits for New England



Benefits

- A solution with real benefits for the region
 - Economic value
 - CO₂ reduction
 - Renewable resource additions
 - Fuel diversity
- HVDC tie line with Hydro Quebec allows for large import capability into New England
- Optimizes use of existing and planned bulk power grid -- connects the DC tie line from Hydro Quebec at a good location on the New England AC system
- Provides a new, strong and separate reliability path from HQ
- Addition of north-south DC connection allows for enhanced power flows to southern New England load centers

Recent developments (cont.)



- **PV20 transmission proposal**
 - Additional transmission line connecting northern New York with northern Vermont
 - Currently a feasibility study underway with a regional planning group (IPSAC – Inter-area Planning Stakeholder Advisory Committee)
 - ✦ Latest information on study work on ISO-NE website:
 - http://www.iso-ne.com/committees/comm_wkgrps/othr/ipsac/mtrls/2009/may72009/index.html

New York Independent System Operator 230 kV and above Transmission

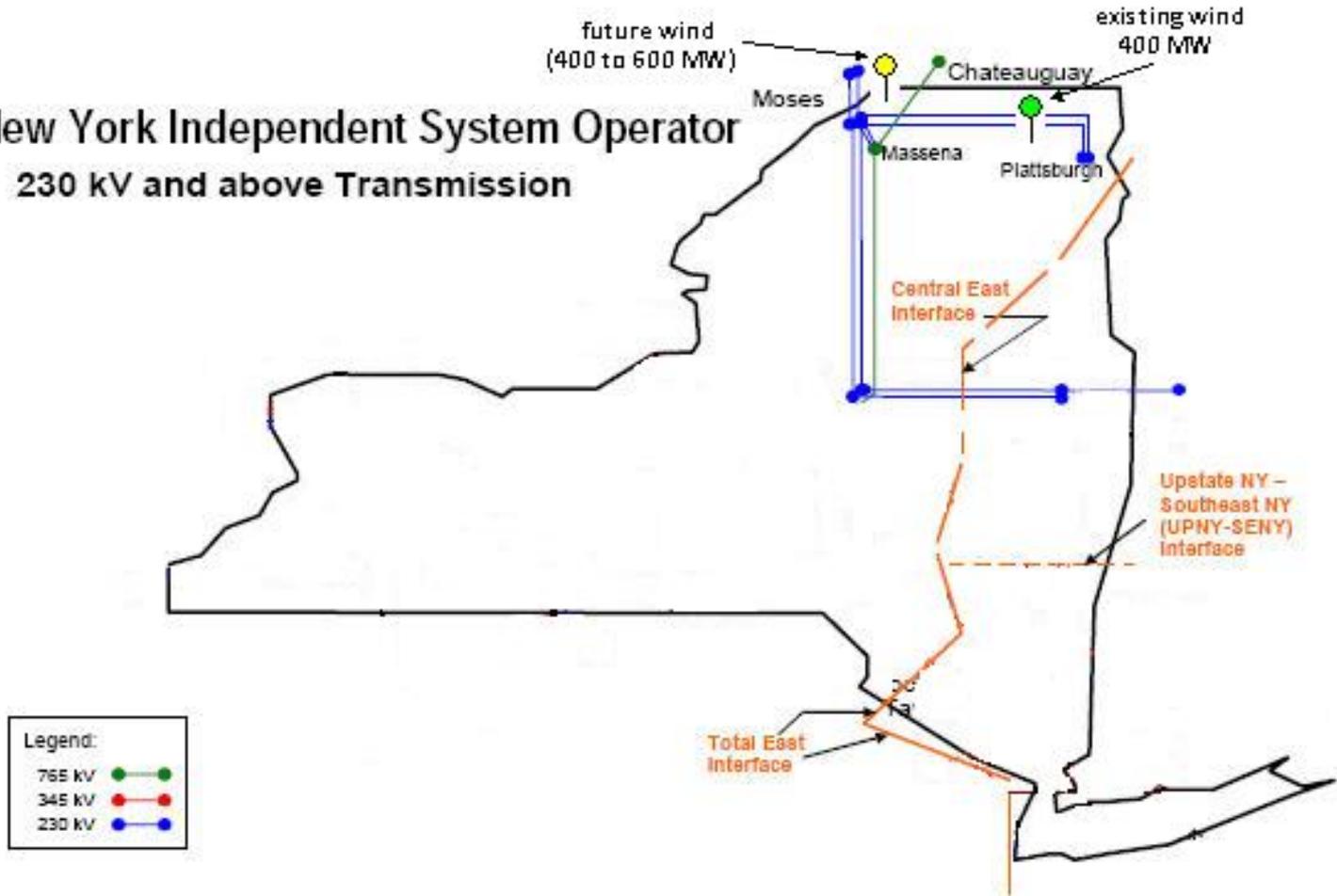


Figure 1: NYISO 230 kV and above Transmission Map

Recent developments (cont.)



- **New England regional examination of transmission needed for renewable power**
 - Economic study request from the New England governors (May 2009)
 - Wind penetration to be examined : 12,000 MW
 - In northern New England
 - Maine @ 4672 MW
 - New Hampshire @ 1174 MW
 - Vermont @ 650 MW
 - Study is to provide, among other outputs, rough estimated additional transmission to connect these wind resources to the grid

Potential Vermont Impacts



- **Each of these proposals has potential new transmission being constructed in Vermont**
 - The transmission would be built for regional needs (renewable power supply to VT and/or NE, “uncorking” wind power, etc.)
 - These facilities may be constructed by Vermont entities or by out-of-state entities
 - ✦ Merchant transmission companies have expressed an interest in examining transmission projects to provide renewable power resources from NY into NE (May PAC meeting

Docket 7081 Evaluation Work Plan



- Proposed evaluation work plan in meeting package
- **Actions needed:**
 - Approval of work plan
 - Appointment of sector leads
 - Commitment of subcommittee chairs to convene evaluation meetings in July or August and submit feedback in time for September VSPC meeting package

Next meetings



- **September 9, Holiday Inn, Rutland**
- **December 9, Doubletree Hotel, Burlington**
- **All meetings scheduled 9:30-4:00**