



Meeting Minutes
April 26, 2017
Middlebury Inn
Middlebury, VT

The Vermont System Planning Committee (VSPC) held a regular meeting on April 26, 2017, at Middlebury Inn, Middlebury, Vermont. Deena Frankel called the meeting to order at 9:35 a.m.

Steve Litkovitz moved approval of the October 19, 2016, minutes; Hantz Pr sum  seconded. The minutes were approved without objection.

Introductions

Participants introduced themselves. A list of attendees by sector appears on page 6 of these minutes.

Merchant Transmission Update

Colin Owyang, VELCO General Counsel, provided an overview of the merchant transmission projects impacting Vermont including Vermont Green Line (Anbaric/National Grid), New England Clean Power Link (TDI), Northern Pass (Eversource), Granite State Clean Power Link (National Grid). The driving factor for the various projects is the Massachusetts renewable energy bill passed in 2016 requiring utility companies to competitively solicit and contract for approximately 1,200 MW of additional clean energy generation which can be satisfied by hydropower, solar, on-shore wind farms, and other renewables. In addition, the legislation allows for procurement of 1,600 MW of offshore wind.

Mr. Owyang, in describing the complicated governmental approval process, explained the MA Department of Environmental Resources (DOER) acts as the manager for the Request for Proposal (RFP) process, while the Massachusetts Attorney General's (AG) office acts as the ratepayer advocate and consults with DOER in the selection process. The selected project will need approval of the Massachusetts Department of Public Utilities (DPU). In addition, DOER is separately soliciting a consultant to help run the clean energy solicitation process, who will be retained by DOER, in consultation with the AG. FERC must also give final approval of transmission tariffs.

The RFP soliciting clean energy proposals was released on March 31, 2017, and bids are due in June 2017. As of January 2017, 17 elective transmission projects have been proposed in the ISO-New England Interconnection Queue totaling more than 10,000 MW of potential transfer capability.

Mr. Owyang discussed the funding models guiding the merchant transmission proposals. Each proposed project (with the exception of Northern Pass) will seek a purely merchant model where the costs would be recovered from customers through a FERC-approved tariff. The Northern Pass will seek a delivery

commitment model where the supplier pays the cost to construct transmission to provide access to market. In this scenario, Hydro-Québec would recover costs through a FERC-approved tariff.

As the interconnecting transmission owner, VELCO's guiding principles are to preserve reliability and independence, maximize risk-adjusted value, and evaluate investment possibilities. Project specifications and status updates of each project are available in the VSPC meeting materials on the website. Project descriptions and updates for Vermont Green Line, New England Clean Power Link, Northern Pass and Granite State Power Link are available in the meeting materials.

Subcommittee Reports

GEOGRAPHIC TARGETING SUBCOMMITTEE

Ms. Frankel reported that the Geographic Targeting Subcommittee met in March to review the St. Albans NTA screening, review GMP's Hinesburg Reliability Plan, and prepare for the annual project review that identifies reliability issues that have the potential to be resolved through non-wires alternatives. The subcommittee is currently in the process of gathering reports from distribution utilities and is scheduled to meet on May 23.

Mr. Prémumé provided an overview of the St. Albans non-transmission alternatives (NTA) screening. The St. Albans substation was constructed in 1958 and currently has several asset condition concerns, including severe cracking on concrete foundation, obsolete and degraded protection equipment, damaged control house, circuit switchers below short circuit level, and circuit breakers significantly beyond useful life. VELCO proposes to make upgrades to the substation, the tap line and the tap station. A detailed scope of work is available in the meeting materials. An NTA screening concluded that an NTA would not eliminate or defer the need of the upgrade. VEIC noted that the St. Albans area has been the location for geo-targeting energy efficiency efforts from 2007-2014, which has helped reduce load growth in the area, but the current project appears to have less to do with load growth as it does with age and condition of the assets. A petition for a certificate of public good will be filed in June.

FORECASTING SUBCOMMITTEE

Mr. Prémumé reported that the Forecasting Subcommittee met on April 25 to review the data collected by Itron (available on the website) to help build the 2018 Vermont Long-Range Transmission Plan. The subcommittee is working to collect more data for Itron's model such as 2016 end-use intensities, energy efficiency savings projections, solar load forecast, electric vehicle forecast, and Tier 3 electrification impacts with cold climate heat pumps and heat pump water heaters. The forecast is expected to be drafted by May 31 and a forecast report ready by July 28.

COORDINATING SUBCOMMITTEE

Ms. Frankel provided a status update on Docket 8875 to add a planning seat to the VSPC. The VSPC sent comments filed back in January. No further action has occurred.

The Public Service Board appointed representatives to the three vacancies for the residential representative, the residential alternate and the supply alternate to fill out the vacancies that were created by recent resignations. The seats will expire April 24, 2018. The entire public slate will need to be reappointed next spring. The subcommittee would like to be proactive in the renewal process or solicitation of replacements for the next five-year terms to avoid long periods of vacancy.

The next VSPC quarterly meeting is scheduled for July 19, 2017, at the DoubleTree Hotel. There are two conflicting national and regional meetings. Ms. Frankel proposed to reschedule the meeting to July 12. The committee agreed to change the date of the VSPC Quarterly meeting to July 12, 2017, at the Double Tree Hotel in South Burlington, VT. Notices will be amended. The final 2017 VSPC meeting is scheduled for October 18, 2017, at the Holiday Inn in Rutland, VT.

SCHEDULE AND WORK PLAN FOR 2018 VL RTP

Mr. Pr sum  reported that the formal input process outlined in the Docket 7081 Memorandum of Understanding (MOU) has begun, requiring VELCO to consult with utilities during the preparation of the Vermont Long-Range Transmission Plan. A full schedule for the 2018 Long-Range Plan is available in the meeting materials.

DOE DISTRIBUTED ENERGY RESOURCE INTEGRATION MEETING

Ms. Frankel reported on an upcoming workshop hosted by VELCO entitled “Voices of Experience: Integrating Intermittent Resources” in collaboration with the US Department of Energy, Office of Electricity Delivery and Energy Reliability. The workshop will be the third and final in a series DOE has held with utilities around the nation to hear first-hand the successes and challenges of distributed energy resources integration. The workshop will be interactive with a focus on bringing people to the table who have experience with DER integration, with an emphasis on distribution utilities. The meeting will take place on February 23 at the Essex Resort in Essex, VT. More information will be released soon. Distribution utilities and others are invited to attend and participate. At the end of the process, DOE will produce a report that summarizes the input they received.

Regional/ISO New England Updates

Molly Connors from ISO-New England (ISO-NE) provided an overview on the Forward Capacity Market auction that took place on February 6, 2017, to procure capacity resources needed for the 2020–2021 capacity commitment period. The auction concluded system wide after six rounds of competitive bidding, with a clearing price of 5.30/kW-month, lower than the \$7.03/kW-month clearing price in the previous auction (FCA#10). No new large generators cleared in the auction, and 640 MW of new energy-efficiency and demand-reduction measures cleared in the auction.

Ms. Connors provided an update on the April 2017, Distributed Generation Forecast Working Group (DGFWG) meeting. The group developed a final 2017 PV forecast that reflects higher levels of solar deployment, expecting more than 4000 MW coming on line by 2026. The final Capacity, Energy, Loads, and Transmission (CELT) forecast will be released in May. The process will start again in December.

Ms. Connors reported that significant changes to criteria and assumptions used in long-term reliability assessments have occurred, are in progress, or will occur in 2017, such as changes to Planning Procedure 3, incorporating probabilistic methods dispatch scenarios, updated information on load, energy efficiency and solar PV forecasts, changes in resources through the FCM, and review of methodologies for Northeast Power Coordinating Council (NPCC) Bulk Power System classification testing.

Ms. Connors reported that ISO-NE’s transmission planning process has been revised to comply with FERC Order 1000. Several companies have applied to become Qualified Transmission Project Sponsors

(QTPS). ISO-NE planning guides have been updated and discussed with stakeholders and software has been purchased to support receipt and processing of responses to competitive solicitations for transmission proposals.

Mr. Pr sum  reported that capacity cost has been significantly reduced, totaling \$2.4B New England-wide. VELCO and Vermont distribution utilities have been meeting with ISO-NE to better understand the technical limitations and market implications of the Sheffield-Highgate Export Interface (SHEI), and to help distribution utilities with bidding strategies to maximize Vermont’s wind generation. Mr. Pr sum  reported that the ISO-NE Participants Committee approved an ISO-NE proposal to enable clustering of interconnection study requests and allocation of transmission costs among projects to help streamline the study process. The proposal allows multiple queued generation projects to be studied together instead of sequentially, and thus identify the best transmission solution to resolve the collective transmission need.

Policy and Project Updates

DOCKET 7307: CYBER SECURITY

Ms. Frankel provided an update on the cyber security principles under consideration in Docket 7307. DPS filed a draft with the Board in 2012 that was not acted upon. The issue has been raised following the false hacking event on Burlington Electric Department’s system. The objective is to create a communication protocol for any cyber security incidents that rise to a level to be determined. The Public Service Department is holding an informal discussions with interested parties in the hope of filing a revised consensus proposal with the Board in July.

NET METERING RULE UPDATE

Ms. Bailey reported that the net metering program went into effect on January 1, 2017, by Board order and the Board filed the final proposed rule with the Legislative Committee on Administration Rules (LCAR) to review for consistency with the statute and move toward final rule adoption. The new rule included substantial changes to rates and a 10-year limit to non-bypassable charges for pre-existing systems. LCAR took issue with rule section 5.125 that would modify the terms that apply to net metered system built before 2017, saying the Board exceeded its statutory authority and that the retroactive change would violate state law. In response, the Board submitted a memo to LCAR requesting they withdraw the objection and allow the rule to move forward in its entirety. If they fail to do so, the Board will move forward with the rule after the legislative adjournment without Section 5.125. LCAR has not issued a response yet. [Note: The final rule was adopted June 8, 2017, including the provision that had previously been the subject of LCAR’s objection.]

VERMONT WEATHER ANALYTICS CENTER (VWAC)

Kerrick Johnson reported on recent developments including the installation of a High Performance Computing Cluster (HPCC) at VELCO. The Deep Thunder Vermont model will be running on the HPCC by May 15. A second unit is expected to be installed in 2018 enabling all of the models to be run in Vermont and completely disconnected from IBM. The focus on weather has grown to encompass renewable integration and load forecasting and has initiated a proposed project name change to the

Vermont Energy Analytics Center (VEAC). The new name will continue to be socialized among its stakeholders.

Under an agreement between VELCO and IBM Research, the intellectual property and technology from IBM Research's Smarter Energy Team has become part of a new spin-off company called Utopus Insights. VELCO's CEO and President, Tom Dunn, will chair the three-member board of directors of the new business, and VELCO will serve as strategic partner bringing industry knowledge and creating broader industry awareness of the industry-tested software provided by Utopus Insights. . The creation of Utopus Insights will not impact the second joint development agreement, a two-year contract, expected to be complete in June 2018. Four items under the agreement are moving forward including enhanced visualization, a zoom feature, and the integration of the forecast of real-time results to further raise the confidence level. A Peak Load Management Team has been formed to develop a dispatch plan where distribution utilities would undertake actions suggested by the grid operator to collaboratively drive down the peak load and save ratepayers money. The group adopted the performance metric of an 8 MW annual reduction in peak, estimating a \$1M savings for ratepayers.

Project Updates

STATUS UPDATE OF REMAINING DEFICIENCIES

Connecticut River Valley: Mr. Pr sum  reported that the Hartford component has been completed and work will continue at the Ascutney and Chelsea substations, as well as reconductoring of the K31 line. All construction is expected to be complete by 2018.

Northern area: Mr. Pr sum  reported the project is still on hold unless and until load increases.

Hinesburg: Mr. Litkovitz reported that GMP and VEC are moving ahead with a joint substation and GMP is currently acquiring land for a battery storage system.

Rutland: Mr. Kirby reported that the Rutland peak load is declining and GMP continues to monitor the area.

OTHER VELCO PROJECTS

PV-20 Replacement Cable: Mr. Pr sum  reported that construction activities have begun on both sides of Lake Champlain in NY and VT. Submarine cable construction will be completed in the fall 2017.

Structure Condition Improvement Project: Mr. Pr sum  reported that the SCI program is aimed at replacing aging structures and is currently replacing 300 structures per year.

Adjournment and next meeting

The meeting was adjourned at approximately 1:30 p.m. The next quarterly meeting is scheduled to be held from 9:30 a.m. to 4:00 p.m. on July 12, 2017, at the Double Tree Hotel, South Burlington, VT.

ATTENDANCE

*Indicates voting member

**Indicates alternate

Public Sector

Michael Kirick

Transmission Utility (VELCO)

Hantz Pr sum , VELCO

Distribution Utilities Providing Transmission (GMP, VEC)

*Steve Litkovitz, GMP

**Rip Kirby, GMP

*Cyril Brunner, VEC (by phone)

Large Transmission-Dependent Distribution Utilities (BED, WEC)

*Bill Powell, WEC (by phone)

*James Gibbons, BED

Transmission Dependent Distribution Utilities (Municipals)

Melissa Bailey, VPPSA

Supply & Demand Resources

Nathan Vandal (by phone)

Olivia Campbell Andersen

Dave Westman, VEIC

Michael Wickenden, Residential Representative
(by phone)

Non-Voting Members

John Woodward, PSD

Staff

Deena Frankel, VELCO

Shana Louiselle, VELCO

Guests

Billy Coster, ANR

Molly Connors, ISO-NE

William Jerome

Charlie Van Winkle

Colin Owyang, VELCO