

**FINAL VELCO Operating Committee
MINUTES**

February 18, 2016, 11 a.m. – 3:00 p.m.
GMP Montpelier Office

Participating members: Ellen Burt (Town of Stowe Electric Department), Ken Couture (Green Mountain Power), Frank Ettori (VELCO), Ken Mason (Vermont Public Power Supply Authority) by phone, Ken Nolan (Burlington Electric Department), Bill Powell (Washington Electric Cooperative) by phone, Chris Root (VELCO), Jeff Wright (Vermont Electric Cooperative).

Other participants: Tom Dunn (VELCO), Mike Fiske (VELCO), Deena Frankel (VELCO), Dave Haas (VELCO), Kerrick Johnson (VELCO), Mike Loucy (VELCO), Craig Myotte (Morrisville Water & Light), Dan Nelson by phone (VELCO), Colin Owyang (VELCO), Greg White (Green Mountain Power).

Next Meeting

March 17, 2016

11 a.m. to 3 p.m.

GMP Montpelier

1-866-720-4556

Code: 6027065

Opening

- Mr. Root called the Operating Committee (OC) meeting to order at 11:02 a.m.

Safety Topic

- Mr. Fiske discussed that during recent maintenance work a line truck was driving through a parking lot and slid on ice impacting two empty, parked cars. This is a good reminder that situational awareness is imperative to prevent accidents and applies to all types of work.

Minutes Approval

- Mr. Couture moved approval, Mr. Ettori seconded and the January minutes as posted were approved without objection.

Statewide Radio Project (SRP) Update

- Mr. Nelson provided an update summarizing 2016 SRP progress to date. The Woodbury site is commissioned and the sites preparing for construction include Barnet, which is designed with an off-grid power supply supported by generator backup, Lowell, Chester, and Rupert. Two existing sites, Jay and Sharon, are being replaced with other sites to improve coverage and performance. Additionally, site assessments are underway and multiple upgrades have been identified that include tower structure, building, and microwave backhaul enhancements at the Huntington, Hanley, Rockingham, and Pico Mountain sites. As reported on in 2015, all 36 SRP sites will also undergo battery upgrades as the original batteries are at the end of their life cycles.
- Mr. Wright asked for an update regarding any planned Montgomery coverage enhancements. Mr. Nelson responded that VELCO is reviewing potential fill site locations, which will likely be located in Montgomery proper as the legacy Jay site does

not provide adequate coverage. To facilitate backhaul and cost efficiencies, locations on or near the VELCO's existing fiber route are being considered first.

- Mr. Nelson discussed that VELCO continues its negotiations to obtain additional spectrum to provide more flexibility and capacity in the future.
- Mr. White asked for an update on the pending SRP system stress test. Mr. Nelson responded that his team is coordinating with various distribution utility (DU) members to conduct a full saturation stress test with an objective of evaluating how well the recent coding changes, designed to alleviate the system call jamming effect, will perform.

ISO-New England Update

- Mr. Ettori presented the materials provided to the OC summarizing market, reliability, and other regional highlights.
- Mr. Johnson asked how demand response (DR) is called into the market. Mr. Ettori responded that, similarly to generators, ISO New England (ISO-NE) can call for DR participants to bid into the market under Operating Procedure (OP) 4—Action During a Capacity Deficiency situation. The point of contention is that these sources are currently not under any pricing constraints and can therefore negotiate any price market.
- Mr. Dunn asked what is driving the approximate \$1B decrease in the forward capacity market. Mr. Ettori responded that it's likely the result of increased competition.
- Mr. Dunn asked what the forward capacity market participants are forecasting for near term energy prices. Mr. Nolan responded that the current market opinion is that energy prices will remain consistent for the next five to seven years.
- Mr. White asked if the proposed location of the 93 megawatts (MW) of battery storage is known. Mr. Ettori responded that he does not have visibility into the location of the proposed projects.
- Ms. Frankel asked who made the assignment of probabilities presented in the slide. Mr. Ettori responded that this was completed by ISO-NE.
- Mr. Ettori opined that reliability projects included as part of a regional planning study are likely to meet the new criteria and receive regional funding treatment. However, smaller localized pooled transmission facilities (PTF) projects will be localized costs.
- Mr. Ettori also discussed the recent requirement for New England Power Pool (NEPOOL) to conduct a multi-scenario analysis. The study scenarios include Renewable Portfolio Standards (RPS), RPS and retirements, and Natural Gas and Natural Gas and retirements. The outcome of this scenario analysis will be for information purposes only.

Power Accounting Update

- Mr. Ettori provided an update summarizing the Power Accounting project with ARC Business Solutions Inc. (ARC) continues to make positive progress. Both the Vermont Transmission Agreement (VTA) and ISO-NE Open Access Transmission Tariff (OATT) billing protocols are being programmed in the Power Accounting System which will eliminate the management thereof using spreadsheets.

East Fairfax Cap Bank Project

- Mr. Ettori presented the materials provided to the OC summarizing that VELCO is conscientiously trying to treat projects similarly when classifying them but each situation has different circumstances. A challenge presented is how potential future connections should be considered, especially when the project components are below 115kV. One current example is the East Fairfax Cap Bank project. VELCO could classify the 34.5kV bus expansion, required at the East Fairfax substation in support of GMP's request to install a new 5.4Mvar capacitor bank, as a Specific Facility as if could allow future participants to connect to it. Mr. White suggested that maybe the fairest treatment method, given the uncertainty of future requests, would be to classify the expanded bus as an Exclusive Facility and consider the issue of reclassifying if in the future if another connection request is made. All were in agreement with this suggested treatment methodology.

Net Metering & Siting Rules Update

- Ms. Frankel discussed that the Public Service Department's (PSB) draft revision of PSB Rule 4.100—Small Power Production and Cogeneration may change the Qualifying Facilities (QF) regulatory framework. As the rulemaking process proceeds, VELCO will consult with the DUs to understand the potential impacts on DUs as well as VELCO.
- In the meantime, Rules 5.100 (Net Metering) and Rule 5.500 (Interconnection) are moving forward as has been discussed at past meetings.

Storage Analysis

Mr. Root provided an update on the Storage Analysis Study summarizing that the business case economics seem to be locally driven. The draft study for northern Vermont indicates the economics don't support a storage solution regardless of the technology. VELCO's consultant, Quanta Technology, is scheduled to complete the study in 2Q2016 and will provide a presentation to VELCO.

VELCO Board of Directors (BOD) Update

- Mr. Dunn provided an update summarizing that this meeting had a heavy focus on 2015 results, a discussion around BOD member fiduciary responsibilities, a presentation of a recently conducted company risk assessment, and the weather analytics proposal to extend the contract one quarter.
- Mr. Dunn discussed that ISO-NE has been intrigued with the weather analytics project underway in Vermont leading to discussions of how this tool might be expanded to benefit to ISO-NE's forecasting needs. Under consideration is using Vermont as a pilot study for the rest of New England (NE). One apparent benefit to ISO-NE is that with improved weather forecasting the operation of the NE electrical grid could be less conservative potentially resulting in cost savings.
- Mr. Dunn discussed that field activities for the Vermont Gas Project are underway and when in VELCO's rights of way VELCO has a large oversight responsibility. He explained that VELCO has a Memorandum of Understanding (MOU) in-place with Vermont Gas to protect VELCO's assets and recover any costs in doing so.

Critical Energy Infrastructure Information (CEII) K22 Outage

- Mr. Haas presented the materials provided to the OC summarizing that on February 3, 2016 a situation developed that resulted in an overload of subtransmission in the Green Mountain Power (GMP) and Morrisville Water and Light (MW&L) systems. At 00:54 the K22 line operated locking out while coincidentally the K21 line was out of service for maintenance work. Ultimately the system was restored without major losses but low transmission voltages on the VELCO circuits between Jay and St. Johnsbury and loss of customer load in the MW&L system were experienced.
- Mr. Fiske provided a summary of the actual line break leading to the tripping of the K22 line. A conductor compression splice between two structures failed allowing the conductor to drop into the Winooski River creating a short. Since this event VELCO has initiated a review of this event and its system to try to identify if this was an isolated situation or if other similar elevated risks are present.

North American Electric Reliability Corporation (NERC) Alert/Cyber Security

- Mr. Root discussed a news article authored by Evan Perez, CNN Justice Reporter dated February 11, 2016 that was provided to the OC. He summarized that President Obama's administration and other United States (US) intelligence and security officials have found conclusive evidence that a cyber attack caused the blackout.
- Mr. Root presented the materials provided to the OC regarding the recent cyber attack on three Ukraine electrical distribution systems summarizing that approximately 225,000 customers were without power for as long as six hours, more than 50 substations were impacted, and 134 megawatts (MW) of load was shed. Mr. Couture offered that he has read that the perpetrators started several months earlier by establishing a presence within the utilities before initiating the coordinated attack.

Other business

- Mr. Root opened discussion regarding topics the DU's would like VELCO to consider focusing on in 2016. No discussion ensued.
- Mr. Johnson offered to provide to the OC ISO-NE's "State of the Grid" presentation.
- Mr. Dunn mentioned that the one of the independent transmission development proposals has had a recent development in that two generators have agreed to provide power over the proposed transmission line. This has resulted in VELCO needing to expedite a transmission study assuming the proposal goes forward to assess any potential impacts to the Vermont electrical grid. Mr. Root discussed that the timing of the independent proposals will drive VELCO's study schedule but we have initiated internal discussions to be prepared to provide any findings to the pending future Public Service Board (PSB) Certificate of Public Good (CPS) application process.

Proposed agenda items

- Regulatory update (e.g., draft 4.100 rules)
- Statewide Radio Project (SRP) Update
- Storage Analysis Study update
- State of member systems – observations, challenges, successes
- VSPC reorganization update

Motion to adjourn

- Mr. Couture moved and Mr. Etori seconded adjournment, which was agreed without objection at 2:50 p.m.