

VELCO OPERATING COMMITTEE MINUTES

December 21, 2017, 11 a.m. – 3:00 p.m.

GMP Montpelier, VT

PARTICIPATING

Operating Committee Members

Mike Burke (Green Mountain Power), Ken Couture (Green Mountain Power), Stephen Fitzhugh (VT Public Power Supply Authority/Northfield Electric Department), James Gibbons (Burlington Electric Department), Dave Kresock (Stowe Electric Department), Craig Myotte (VT Public Power Supply Authority/Morrisville Water and Light Department) by phone, Jason Pew (VELCO), Bill Powell (Washington Electric Cooperative), Chris Root (VELCO), and Peter Rossi (Vermont Electric Cooperative).

Next Meeting
January 18, 2018
11 a.m. – 3 p.m.

1-866-720-4556
Code: 6027065

Other participants

Josh Castonguay (GMP) by phone, Dan Nelson (VELCO), Mark Sciarrotta (VELCO), and Kris Smith (Vermont Electric Cooperative).

OPENING REMARKS

Mr. Root called the meeting to order 11:10 a.m.

SAFETY TOPIC

Mr. Root discussed impending winter weather and its impact on travel over the next few days.

Mr. Fitzhugh discussed a video released by the National Fire Prevention Association that compared how fire impacts a regularly watered live tree versus an un-watered live tree. The video indicated that when a tree is regularly watered it takes several minutes for a fire to get out of control versus less than a minute for the dry tree; take the time to water your live trees.

CYBER SECURITY TOPIC

Mr. Smith discussed Cyber security with regard to holiday shopping. He reported that recently he had heard a report of a person whose personal bank account numbers were stolen and then electronic checks were written on those accounts. You should protect your information as much as possible and keep an eye on your bank/credit card statements to ensure correct billing. If you recognize a false charge, report it as soon as possible; the longer you wait the harder it will be to resolve.

OPERATING COMMITTEE MINUTES APPROVAL

Mr. Pew presented the minutes from the last meeting (October 19, 2017) for approval. Mr. Root requested he be added to the attendance record as his name was erroneously omitted. With that correction Mr. Couture moved for approval, Mr. Powell seconded and the minutes were approved without objection.

SHEI PROJECT

Mr. Root provided an update to the SHEI project that included a review of the steps taken thus far:

- Cost estimates have been provided for each of the proposed mitigating projects which are in the VELCO space. Additionally, DUs are estimating projects in their respective areas on the same estimating basis.
- Dynamic ratings to address a thermal constrained line, the next identified constrained after

voltage constraints are addressed, was discussed. A request for proposal was released for various dynamic rating solutions at 5 minute intervals. This would be the first in New England application. Real-time ratings would be calculated using equipment attached to a conductor that takes temperature and wind speed readings then derives a rating based on the actual ambient conditions. Day-ahead ratings can be calculated given site specific weather information provided by the Vermont Weather Analytics Center (VWAC).

- Two significant questions remain unanswered:
 - Who will decide which projects get chosen?
 - Who will pay for any potential mitigating projects?

Mr. Gibbons suggested that the solution options presented could be itemized in a way that indicates solutions to “today’s” issues versus “future” issues.

Mr. Rossi expressed his concern about funding solutions that would result in increasing the export limit to a point that no issues remain; this could result in added generation built into the area which would negate any benefits gained.

Mr. Root asked the group who needed to be at the table and who should ultimately decide the proper solutions. Mr. Gibbons expressed his view that the Vermont System Planning Committee (VSPC) should not be the forum to select any possible solutions and that GMP might make the most sense to host those types of conversations as most solutions lie within their territory.

Mr. Castonguay suggested that representatives from each of the potential impacted DUs be brought together to decide on potential mitigating projects. Additionally, he also agreed that the VSPC is not the correct forum.

Mr. Root reported that the estimates for the projects are expected to be made available in January.

POST-WIND STORM DISCUSSION

Mr. Nelson reported that VELCO fiber system was unaffected by the storm. He wished to discuss the Statewide Radio System’s (SRS) performance during the event.

- The SRS had roughly 40k calls during the event
- Queuing occurred in the most heavily impacted areas (Stowe, Morrisville, and areas of the GMP and VEC territories) that resulted in approximate wait times of 26 seconds for a channel to be available

VELCO recently acquired additional radio spectrum that will allow increase capacity on the SRS.

Mr. Smith reported he witnessed “cross-talk” during the time of heavy use.

Mr. Nelson reported that different geographic areas use the same channels/frequencies. If a radio is assigned a channel in its local area (radio tower), a second radio in a different area (different radio tower) might be assigned the same channel. If a radio is in an area that can reach both radio towers, that common channel could be accessed. This is a rare event that once recognized by the users, they would need to drop the call with the cross-talk and open a new channel. This issue is recognized and with the recent addition of spectrum, efforts will begin to rechannelize the system to mitigate the issue.

Unrelated to the wind storm, communication outages were caused by damaged FairPoint fiber (leased out of necessity) that resulted in the loss of several towers for a period of time. This outage was caused by mice chewing through FairPoint fibers which provided dial tone and radio tower services to VELCO.

Additional radio tower data is available through the use of a remote operating package that was installed with the initial purchase of back-up generation at each equipped radio site.

Mr. Couture inquired how long a radio site can operate on its emergency generator. Mr. Nelson reported each site was engineered for 3 days of full load; in reality, it would likely be closer to 5 days. The ability to operate and modify the normal operation (cycle the generator on/off to charge onsite batteries as necessary) can be leveraged to extend the run-time even further.

The entire microwave system used for radio communication has been upgraded to carrier quality, which will result in a more reliable, robust system.

Mr. Rossi reported that the VELCO hosted emergency response calls/coordination worked very well and he was appreciative of that effort. He also indicated that VEC would like to send a representative to the state Emergency Operations Center (EOC) to keep VEC better informed during an event. Additionally, he highlighted the coordination of FairPoint crews following VEC crews, as GMP had done, and that was an excellent example of an efficient restoration.

VELCO BOARD OF DIRECTORS UPDATE

Mr. Root provided an overview from the last Board of Director's meeting:

- Health & Safety—VELCO had no employee lost time injuries, 3 minor vehicle incidents out of approximately 1.9M miles driven.
- System Performance—System Average Interruption Duration Index (SAIDI) and Sustained Forced Outages (SFO) were reviewed, as were the various animal mitigation systems being installed that will likely reduce the impact to those statistics in the future.
- GridEx—VELCO's participation in GridEx, a national exercise organized by NERC, was discussed
- Live-line work practices—VELCO linemen are being trained to perform live bare-hand maintenance, which will allow additional types of work (emergency hot spot repair, metal cross arm replacement, etc.) to be performed under live-line conditions, which previously required a facility outage. This will take all of 2018 to complete.
- Danger trees—VELCO removed approximately 4K danger trees in the past year.
- Capital projects—K31 line reconductoring, 150 structures were replaced throughout the system, PV20 line is on schedule for end of year commissioning, and re-establishment of 10 miles of corridor access roads were highlighted.
- System planning accomplishments—2018 long range plan is being drafted.
- Telecommunication and cyber security—Critical Infrastructure Protection (CIP) audit by NPCC with no findings, VELCO fiber replaced several leased communication lines, which yielded a significant savings, additional radio spectrum, microwave system upgrades were highlighted.

K37 LINE INCIDENT

Mr. Root provided an overview of the incident on the K37 line incident. A root cause analysis team was formed. The team consisted of representatives from VELCO, GMP, and the injured worker's company representative, which made for a well-rounded analysis. The report is almost completed and is currently being reviewed internally for approval and anticipated to be released next few weeks.

High-speed protection, the resulting de-energization of the line involved in the incident (approximately 58ms or 3.5 cycles), as well as the timely and textbook pole-top rescue combined are credited for limiting the extent of the injuries to the worker.

PV UPDATE DISCUSSION

Mr. Root requested a total capacity of installed behind the meter solar installations.

OTHER BUSINESS

- 2018 calendar

- Sub-transmission line faults toward Morrisville from Stowe are in a common zone of protection that impacts a portion of local Stowe load. Faults currently require manual intervention by the VELCO System Operator to open the sub-transmission line and restore the Stowe load. Possible solutions are being investigated and the costs associated with any solution would need to be vetted within the Operating Committee forum.
- Vermont Public Utility Commission (PUC)
 - PUC holding a hearing on grid resiliency—January 11, 2018, morning
 - PUC holding a SHEI workshop—January 11, 2018, afternoon
- Puerto Rico—mutual aid
 - Mr. Rossi reported that VEC has been requested to send linemen and bucket trucks to assist with the Puerto Rico restoration effort. VEC has had one lineman volunteered. Mr. Burke reported that GMP is likely sending some bucket trucks.
 - Linemen who assist will fly to Puerto Rico. Sleeping arraignments are on a docked cruise ship.
- Mr. Root reported that planned transmission outages will be discussed quarterly that may impact generation.
- Next meeting; January 18, 2018, 11 a.m. – 3 p.m., at the GMP Montpelier Office
- Open discussion
 - Next meeting: solar capacity

MOTION TO ADJOURN

Mr. Couture moved to adjourn, Mr. Rossi seconded, and the meeting was adjourned at 14:30 pm.