

**OPERATING COMMITTEE MINUTES**  
**MARCH 15, 2018, 11 A.M. – 3:00 P.M.**  
**GMP MONTPELIER, VT**

**PARTICIPATING MEMBERS**

Ken Couture (Green Mountain Power), Frank Etori (VELCO), James Gibbons (BED), David Kresock (Stowe Electric Department), Craig Myotte (VT Public Power Supply Authority/Morrisville Water and Light Department), Jason Pew (VELCO), Chris Root (VELCO), Peter Rossi (Vermont Electric Cooperative), Ken Tripp (Vermont Electric Cooperative).

<p><b>Next Meeting</b></p> <p><b>April 19, 2018</b></p> <p><b>11 a.m. – 3 p.m.</b></p> <p><b>GMP, Montpelier</b></p>
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**OTHER PARTICIPANTS**

Tom Dunn (VELCO), Deena Frankel by phone (VELCO), Ed McGann (VELCO), Collin Owyang (VELCO), Hantz Pr sum  by phone (VELCO), and Mark Sciarrotta (VELCO)

**OPENING REMARKS**

Mr. Root called the meeting to order at 11:07 a.m., verified a quorum, and reviewed the agenda.

**SAFETY TOPIC**

Mr. Tripp reported on the importance of good ergonomics when snow shoveling.

Mr. Root reported that VELCO has been interviewing for a Safety Manager and that he wished to share a story related by an interviewee. The story involved two crews working on the same project within 1000 feet of each other. One crew was using a bucket truck and the other was climbing. Two pole-top punch list items remained before the end of the day. The crew working from the bucket offered to complete both; however, the climbing crew, probably wishing to be as efficient as possible on a Friday afternoon, proceeded with the work. When the climbing lineman reached the top of the structure, he secured himself with two connections; one to a fiber connector attached to the structure and a second to the fiber itself. During the course of his work, the connector holding the fiber failed. This left the lineman with no fall protection. Mr. Root stressed the importance of remaining attentive at the end of a work day, particularly on Fridays when your mind might be on something else.

Mr. Rossi offered a cybersecurity topic involving phishing emails. He reported that these types of emails have increased significantly at VEC and seem to be rapid fire where he receives multiple such emails at a time; each one containing one or more questionable links. He further reported that VEC recently performed intrusion testing and of 105 employees who received phishing emails, only one clicked a link in error and immediately notified IT.

**MINUTES APPROVAL**

Mr. Root presented the meeting minutes from February 15, 2018. Mr. Myotte moved for approval, Mr. Couture seconded, and the minutes were approved as presented.

## **IEEE 1547 WORKSHOP**

Mr. Root presented a flyer for an upcoming IEEE Green Mountain Chapter all day workshop on April 13, 2018, at Dynapower in Burlington. The workshop will cover DER interconnections as well as major changes to the IEEE 1547 grid interconnection standard. The cost is very minimal for members and non-members and will include 8 PDH credits. He added that having technical representatives from each company would be desirable as they will need to understand and implement the available functionality.

## **INTERCONNECTION PROCESS COORDINATION DISCUSSION**

Mr. Root introduced Mr. McGann, VELCO Manager of Engineering who presented VELCO's Interconnection Process Coordination flowchart that included these highlights:

- DGs greater than 1MW need to comply with ISO PP5
- System impact studies shall be routed through VELCO Planning
- Reviewed safety and reliability concerns
- What controls are in place
  - Traditionally communicated and tracked via email and phone calls
  - Currently working with DUs to introduce more rigor to the VELCO process

Mr. Tripp reported that VEC requires certain items that similar facilities in other VT areas do not and that it has resulted in questions when developers want to connect.

Mr. Root discussed an event that occurred recently that was caused, initially, by a delayed clear on a 345kV breaker in the Boston area. The result was tripping of approximately 2000MW of generation in New England. The subsequent increase in tie-line flows resulted in momentary voltage suppression that had the potential to trip inverter-based generation (solar) within NE, approximately and additional 2000MW (if it was very sunny). This further illustrates the need to enable ride-through and other functionality that will be discussed at the April 13 workshop.

## **STANDARD OFFERING AND NET METERING DISCUSSION**

Mr. Root asked if comments or discussion were necessary with respect to Vermont's standard offer and net metering programs.

Mr. Gibbons stated that the current rate of solar installation is unsustainable. He did not believe the current program is the way to get to 90% renewable. He used the example of homeowner sizing their arrays with a goal of annual net zero. This means that significant over-generation will occur during times of light usage. He believed that net metering will be so lucrative that no other generation will be built.

Mr. Dunn responded that he believed the current practice has resulted in the installation of renewables, which was the desire of the program. He additionally referenced that the VELCO Long Range Transmission Plan (LRTP), which identifies some of the issues of concern for the future.

Mr. Présumé reported that the first draft of the LRTP was released in January 2018 and a second draft incorporating comments and consequent additional analysis will be released in April. The second draft will be presented at various public forums in the state where VELCO will seek public

comments. The final report must be filed with the Public Utility Commission by July 1, 2018.

The group discussed battery storage and its ability to assist with managing excess generation. Batteries could be leveraged to charge during times of peak solar production and discharge during non-production hours.

Mr. Rossi reported VEC is in the early stages of looking at battery storage and asked if that type of technology was considered a generator. The general consensus is that batteries are loads when charging and “generators” when discharging. Mr. Etori referenced ISO-NE OP14 which contains requirements for battery installations within New England.

## **SHEFFIELD HIGHGATE EXPORT INTERFACE (SHEI) UPDATE**

Mr. Pr sum  provided an overview of the current status of the work being done to mitigate the SHEI constraint. SHEI constraint was explained at the following venues:

- PUC workshop 1/11/18
- VSPC meeting 1/24/18
- Senate Finance Committee 2/23/18

Vermont utilities have developed cost estimates for mitigating options with regard to the current voltage constraint of the SHEI area. These will be used when considering which options to examine further.

Once the voltage constraint is resolved, the next constraint that needs to be addressed is a thermal limitation on the K42 line. As discussed in earlier meetings, one option is dynamic temperature-based ratings. Multiple vendors were contacted and cost estimates were roughly \$250,000 with additional annual fees. VELCO approached ISO-NE on the use of dynamic ratings and they agreed that the use of the ambient day-ahead temperatures could be practicable as this is a practice that has been done in the past and is documented within current ISO-NE Operating Procedures.

Alternatively, building a parallel K42 line would address the identified need to replace a majority of the structures on the existing line and would allow the continued use of the existing line during construction. VELCO has excess ROW in the K42 corridor already, which makes this a feasible option.

Next steps:

- Collaborate further with DUs regarding:
  - Cost estimates
  - Decision tool(s)
  - Option ranking
- Evaluate the K42 line options
  - Assemble a project team
  - Review current condition data
  - Develop an evaluation tool

## **UTOPUS UPDATE**

Mr. Etori provided a summary from a recent meeting between the leadership teams of VELCO and Utopus in which it was made clear that VELCO was looking for more deliveries on the items within the Joint Development Agreement (JDA). Items discussed included:

- Peak load management
  - Probability assignment needs to be filtered less aggressively
  - Improve notification functionality
- Demand forecasting
  - Improve accuracy of day-time demand forecasts
- Commercial product delivery
  - Fine-grained access to control for DU-level HyperCast
  - 10-day Nostradamus forecasts to support 10-day demand/peak probability forecasts
- Ongoing delivery plan for product feedback from December 2017
- Utopus action items
  - Complete JDA objectives
  - Response team for commercial applications
  - Continue to strive for a transmission and distribution presence

Mr. Dunn provided an overview of the recent purchase of Utopus by Vestas. He reported that Vestas has expectations for Utopus to provide specific deliverables. Those expectations as well as VELCO's will be balanced moving forward. Project management was identified as an area within Utopus that needs to improve. Knowledge at Utopus is abundant; however, project management has been challenging. Utopus was very receptive to the feedback provided and committed to deliverables as outlined by Mr. Etori.

Additionally, Mr. Dunn reported that he remains on the UI Board of Directors but will no longer hold the Chair.

## **REPORT OUT ON NORTHVIEW WEATHER LLC PROPOSAL**

Mr. Owyang presented follow-up information from last month's Operating Committee with regard to Dr. Schafer's proposal to the VT Distribution utilities. Specific details were discussed with regard to proprietary information.

## **OTHER BUSINESS**

### **Open Discussion**

None

### **Potential Next Meeting Items**

- Mr. Couture to provide an overview of the Stafford Hill Solar/Battery facility

- Vermont Long Range Transmission Plan update
- Update on 3/14/18 system disturbance with regard to potential solar impact

**MOTION TO ADJOURN**

Mr. Couture moved to adjourn, Mr. Gibbons seconded, and the meeting was adjourned at 1:52pm.

Respectfully submitted,

Jason Pew

VELCO OC Secretary