

DRAFT VELCO Operating Committee MINUTES

August 18, 2017, 11 a.m. – 3:00 p.m.

GMP Montpelier Office

PARTICIPATING MEMBERS

Mike Burke (Green Mountain Power), James Gibbons (Burlington Electric Department), Craig Myotte (VT Public Power Supply Authority/Morrisville Water and Light Department), Jason Pew (VELCO), Bill Powell (Washington Electric Cooperative), Chris Root (VELCO), and Peter Rossi (Vermont Electric Cooperative).

<p>Next Meeting September 21, 2017 VELCO, Rutland Boardroom 1-866-720-4556 Code: 6027065</p>
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OTHER PARTICIPANTS

Tom Dunn (VELCO), Deena Frankel (VELCO), Kerrick Johnson (VELCO), Dan Nelson (VELCO), Hantz Pr sum  (VELCO), and Jose Sebastiao (VELCO).

OPENING REMARKS

Mr. Root called the Operating Committee (OC) meeting to order at 11:09 a.m., verified a quorum, and reviewed the agenda. An additional topic for discussion, Data Aggregation, was added to the agenda as Other Business.

Ms. Ellen Burt, Stowe Electric Department Primary Participant, provided an email assigning James Gibbons of BED as Stowe’s proxy for this meeting.

SAFETY TOPIC

Mr. Pew demonstrated the iPhone’s Medical ID functionality. It allows non-authorized users the ability to see emergency contact and medical information (allergies, blood type, medication, etc.) while the phone is locked; using the Emergency button which is often avoided due to lack of understanding of its function. Once the Emergency button is initiated, the user can call 911 or your emergency contact, and displays your medical information without the need to unlock the phone.

The displayed information is configured through the Health application and can include as much or as little information you choose to share. As an added benefit, if your phone is lost and found, the owner of the phone can be tracked down through the emergency contact.

MINUTES APPROVAL

Mr. Root presented the meeting minutes from June 15, 2017, for approval.

Mr. Myotte moved for approval, Mr. Rossi seconded, and the minutes were approved as presented.

VT OUTAGE DISCUSSION

Mr. Root introduced the topic by providing a review of the current VTOUTAGES.com site and its functionality. The site is utilized by state regulators as well as ISO-NE for tracking outages within the state. Currently the site is maintained by GMP, which bears all costs

associated with its operation.

Mr. Burke, Mr. Rossi, and Mr. Gibbons all reported that their respective companies have automated the process to keep outage information on the site updated. Stowe Electric has an automatic update feature as well. The automated process leverages existing distribution utility (DU) Outage Management Systems (OMS) or equivalent, which results in timely updates requiring little effort to support.

Mr. Root reported that he had spoken with Dan Weston of Washington Electric Cooperative (WEC) who expressed interest in getting more value out of the current system. They do not have an automatic feed to this site and must be done manually. Their conversation lead to additional discussion with regard to VELCO hosting site, VELCO may be able to provide additional services, not currently available with GMP that could assist WEC in utilizing VTOUTAGES.com more effectively, beyond that of a compliance/tracking tool.

Mr. Nelson reported that GMP bears all the cost associated with maintaining the site. If VELCO were to become the administrator of the site, VELCO IT staff could develop additional uses for the site as well as bear the costs associated with it.

Mr. Root requested Mr. Nelson contact Mr. Weston to determine what issue(s) need to be addressed and determine the steps associated with resolving those. Also, Mike Burke was going to check with GMP's IT people to learn more about the WEC issue.

Mr. Nelson further reported that other VT utilities are considering Outage Management Systems (OMS) and this might be an opportunity to share the cost of an OMS amongst the utilities not currently utilizing one. This topic will be updated at the next OC meeting.

Additionally, Mr. Nelson reported on progress that has been made with regard to an OS/soft Plant Interface (PI) Community Agreement that is currently being discussed at VELCO. A Community Agreement would allow each DU to use the PI data collection software, traditionally used as a data historian. The opportunity to bring all DU and VELCO data into a single data set would improve the data analytics capabilities being developed as part of the VWAC project.

STATCOM OVERVIEW

Mr. Sebastiao provided an overview of the STATCOM Refurbishment Project. The overview included a high-level review of the reliability need for the facility, a site overview, performance studies, equipment testing, construction highlights, and recent system performance.

The Essex STATCOM is actually two separate STATCOMs, each having three inverters. Project highlights included:

- Harmonic filtering: filter banks were scrutinized to minimize harmonics on the system with results well below that of the old facility.
- Cooling system: constructed to allow maintenance on individual equipment while online; cooling medium upgraded to more environmentally friendly propylene glycol (previous system used ethylene glycol).
- Fully redundant controllers: each control can provide operation of the facility with seamless/online transition; the facility can also operate with any combination of the

six inverters.

- Testing: extensive testing of control systems via simulation combined with individual component testing identified issues early in the process, allowing corrections/revisions prior to installation, which resulted in fewer corrective actions during the scheduled outage.
- Facility performance: Actual events were reviewed and compared to the previous facility; review indicated the new equipment provides greater ride-through capability than the previous facility making it more reliable and effective during system events—it remained online for a close-in-fault when similar events caused the past facility to block; the new facility also responds extremely fast $\approx 35\text{ms}$ or 2 cycles (versus ≈ 5 cycles previously).

Mr. Dunn inquired if the STATCOM contributed to synthetic inertia, which is being discussed in the industry as more PV and non-traditional generation are brought online. Mr. Pr sum  responded that it cannot provide synthetic inertia which simulates physical rotating mass found in traditional generation and synchronous condensers.

Mr. Root reported that this project was unique in that it refurbished an existing facility in a manner that had never been done before. He further commended Jose and the entire project team for the successful completion of the project.

STORAGE REPORT BY THE PUBLIC SERVICE DEPARTMENT

Ms. Frankel introduced the topic by providing a high-level review of the transmission and distribution storage study requirement in Act 53 of 2017 VT General Assembly. She suggested that the study was, in part, a response by legislators to their awareness of the study and subsequent requirement for storage in Massachusetts.

The Department of Public Service is charged with carrying out the study and is seeking feedback on an initial outline its content. The outline is available through the PSD site.

Mr. Gibbons reported that the message to the state should be that we are, as a state, looking at and evaluating storage options. Further, he expressed his opinion that utilities should not be mandated to provide a certain amount (MW) of battery storage or other specific qualities.

Mr. Burke reported that GMP is working with the Department already with regard to battery storage.

Ms. Frankel specifically inquired if there was any interest in collaborating on a joint filing.

Mr. Burke reported that he perceived the issue was being addressed by individual utilities and GMP would have reached out already if they thought a collaborative approach was needed.

Mr. Powell reported that DPS is looking for comments by tomorrow, August 18, 2017.

Mr. Myotte reported that his group is aware of the request and is working on a response.

Ms. Frankel stated that this initial comment period was particularly on the report outline, and is a first step, with additional opportunities for input later in the process.

The consensus among participants was that comments should be submitted individually.

TRANSMISSION PLANNING UPDATE

Sheffield Highgate Export Interface (SHEI) Study

Mr. Pr sum  provided a background of the issue, as reported at the last Vermont System Planning Committee (VSPC) meeting, and then discussed the individual options to increase the export capability of the SHEI area.

As requested by Mr. Gibbons, the RFP problem statement was provided to provide background on what the analysis is meant to address.

VT Transco is seeking consulting services to assess subtransmission, reactive support, and transmission options, including battery storage, and rank these options or sets of options in terms of their performance in comparison to the existing system under all-lines-in and facility-out conditions. Essentially, the analysis will allow us to determine the incremental MW export benefit of the options compared to the existing system. When the voltage limit exceeds the thermal limit for an option, both limits should be provided. Below is a description of the options to be evaluated. These options are not planned upgrades, and the majority of these options, particularly the transmission line additions, will likely be rejected because of their high cost compared to the export benefit that they provide.

11 options were identified within the meeting materials that included:

- Reconductoring of subtransmission assets
- Enhanced or added reactive support
- Transmission upgrades (Reconductoring existing paths, utility scale battery storage, and additional transmission lines)

These options are being analyzed individually as well as in specific identified combinations.

Mr. Gibbons requested a clarification of the study results. Mr. Root reported that the incremental export benefit of each combination would be provided. In addition, a rough cost estimate for each transmission option would be provided to the DUs. It will be up to the DUs to estimate the other options and determine which options are best to pursue as well as the manner in which to fund any non-reliability transmission project(s).

Mr. Dunn reported that the final results of the study should be shared with the VSPC. Additionally, he wished to be as transparent as possible within the bounds of confidentiality with regard to the results and the options being evaluated. He further clarified that any resolution to the export constraint may result in controversy concerning the selected solution, an important fact for interested parties to be aware of early in the process.

ISO Studies for Renewable Generation

Mr. Pr sum  provided a review of proposed renewable generation interconnections currently in process.

OTHER BUSINESS

Data Aggregation

Mr. Root reported that Vermont Energy Investment Corporation (VEIC) obtains data from various DU customer databases and that the process of data transfers often requires time-consuming, reoccurring assistance. He has fielded requests to determine if VELCO could assist by providing a single file transfer to VEIC that could lessen the burden on the DUs.

Specifically, Mr. Root asked if it makes sense for VELCO to house a customer data repository from which VELCO could provide authorized data feeds to VEIC in a more efficient manner.

Mr. Johnson offered that had been contacted by the Department with regard to the same matter. He further provided his opinion that the value of having a single state-wide data repository would likely reduce the burden on each entity's IT staff as well as provide an opportunity to combine overhead with such requests.

Mr. Gibbons expressed concern that the inclusion of the regulators so early in the process should have taken place prior to discussion with the DUs. Mr. Johnson responded that the state approached him on the topic and the purpose of mentioning at the Operating Committee was to seek input and begin a conversation regarding a draft proposal for a single data warehouse.

Mr. Dunn stated that, if the repository makes sense financially for the utilities to pursue then we should continue; if not, then the draft proposal would be put to rest.

Mr. Root asked the members to think about the proposal and provide further input to VELCO.

Open Discussion

Potential items for next month's agenda:

- Mr. Nelson and Mike Burke to discuss VTOutage options

- Mr. Nelson to discuss OSI'soft's Plant Information (PI) Community Agreement

- Mr. Root to have a follow-up discussion on data aggregation

- Mr. Pr sum  to provide an update on the SHEI study

Motion to adjourn

Mr. Gibbons moved to adjourn, Mr. Burke seconded, and the meeting was adjourned at 2:01pm.