

Vermont System Planning Committee
Geotargeting Subcommittee
September 19, 2014
Meeting Summary

In Attendance:

TJ Poor, PSD
Hantz Pr sum , VELCO
Melissa Bailey, VPPSA
Gillian Eaton, VEIC
Steve Litkovitz, GMP
Deena Frankel, VELCO
Jen Lee-Therault, BED
Kim Jones, GMP
Allan St. Peter, PSD
Bill Powell, WEC
Michael Kirick, VSPC Commercial Sector Representative
Nathaniel Vandal, Green Peak Solar

Agenda:

- Agenda review
- Review and approval of May 13, 2014 meeting minutes
- Non-GMP DUs upcoming projects
- VELCO upcoming projects
- GMP project update
- Next steps

Discussions:

- Review and approval of May 13, 2014 meeting minutes:
 - Any comments on the May 13, 2014 Geotargeting Subcommittee meeting minutes are due by September 26, 2014. If there are no comments, then the minutes will be posted to the VSPC website and considered approved.
- Non-GMP DUs upcoming projects
 - Washington Electric Cooperative
 - i. WEC is not experiencing the level of growth that would trigger significant upgrades or the need for a reliability plan. Overall system growth is approximately 0.5%. The only circumstance that might trigger the need for a large capital upgrade would be the arrival of a large customer load.
 - ii. In the context of the WEC presentation, the Department asked if it was appropriate that asset management projects be reviewed by Subcommittee.

The consensus was that only large projects, such as substation projects or \$1M+ T&D projects, should be discussed.

- VPPSA utilities
 - i. Enosburg has experienced load growth over the past five years, but is not forecast to exceed historical peaks. Several VPPSA systems are experiencing modest load growth, however the majority of the VPPSA systems are projecting flat loads. As such, there are no load-growth related projects planned.
 - ii. No significant asset management projects are planned for any of the VPPSA utilities.
 - Burlington Electric Department
 - i. BED does not have any large projects planned.
 - ii. Load growth on the BED system is modest.
 - Discussion ensued regarding VEC and Stowe. To date, these utilities have not brought forward to the Subcommittee either planned projects or related information. The VSPC, in October, must report to the Public Service Board its recommendations on reliability plans per the Docket No. 7874 procedures. Deena will contact both VEC and Stowe in this regard.
- VELCO upcoming projects
- VELCO Asset Condition Improvement Program
 - i. This program examines VELCO's assets for reliable operation, safety issues, code violations, and potential failures. VELCO believes that the projects identified under this program cannot be addressed by NTAs.
 - ii. Identified projects:
 1. Essex STATCOM controls refurbishment
 2. PV20 submarine cable replacement
 3. Substation refurbishments to address bus work, equipment, foundations, etc. (No additional capacity would be added at these substations.)
 - a. Newport
 - b. Sand Bar
 - c. St. Albans
 - d. Florence
 - e. Barre
 - f. Berlin
 - g. Chelsea
 - h. Windsor
 4. Transmission line structure condition assessment
 - a. VELCO will replace 300 structures per year for the next five years.
 5. Transformer condition assessment

- a. Transformers at some risk of failure will be further examined and/or replaced at St. Albans, Hartford, Highgate, Irasburg, Bennington, Berlin, Ascutney and Coolidge.
- o Connecticut River Area Project preferred solution has been identified:
 - i. Rebuild the existing K31 115 kV line from Coolidge to Ascutney, presently 795 ACSR on H-frames, to 1350 ACSS on new H-frame structures. The 1350 ACSS addresses thermal overloads. The new H-frame structures address asset condition.
 - ii. Install a dynamic reactive device at Ascutney.
 - iii. Rebuild the Chelsea substation with a three-breaker ring bus.
 - iv. Split the Hartford 25 MVAR cap banks into two banks of 2.5 MVAR each.
 - v. Adjust the Chelsea and Hartford transformer high-side taps.
 - vi. Reconductor three GMP 46 kV lines:
 - 1. East Middlebury to Smead Road
 - 2. Bethel to East Barnard
 - 3. Windsor to Taftsville
 - vii. Cost estimate is \$138M
 - viii. A 200 MW generator at Ascutney would be required to sufficiently push back on K31 west to east flows. Given the significant size of the generation that would be required, VELCO believes that NTA solutions are not viable.
 - ix. Changes since 2012 Study:
 - 1. The Central Vermont project is no longer linked to the Connecticut River project. Under revised ISO load projections, the Central Vermont area no longer requires an upgrade.
 - 2. Planning standards have changed requiring the testing of:
 - a. all 115 kV and above contingencies
 - b. contingencies resulting in potential load sheds above 300 MW
 - c. contingencies with widespread impacts
 - x. The thermal overload issue arises in 2021. The asset condition issue must be addressed by 2017. VELCO will construct the full project in 2017 as addressing both asset condition and reconductoring at the same time results in lower costs and lower environmental impacts.
 - xi. The screening tool indicates that project screens out at multiple levels:
 - 1. Practicality
 - 2. Need date
 - 3. The amount of NTAs required exceeds 25% of area load.
 - 4. In addition, the amount of generation required to solve the thermal issue would cause issues of its own thereby requiring even further upgrades.

➤ GMP

- Rutland reliability plan update
 - i. Current analysis considers the solution with and without the B7 (46 kV West Rutland to Proctor) closure.
 - ii. Current analysis also considers the solution assuming a concentration of NTA resources near Rutland vs. a dispersal of NTA resources over a wider region
 - iii. Under the resultant four scenarios, the lowest amount of NTAs required would be about 4 MW, the highest about 15 MW. These levels are higher than those currently shown in the reliability plan.
 - iv. GMP has concluded that the B7 will be closed for mutual area reliability.
 - v. To assist in the development of a reliability plan, two scopes of work have been issued. One scope is for DSM solutions and the other for generation solutions. The generation analysis will consider biomass, diesel and bio-diesel technologies. Results are expected by early 2015 to inform the April 2015 filing.
- St. Albans
 - i. 2014 peak summer loads are lower than 2013 peak summer loads. GMP maintains its recommendation to continue monitoring in this area. GMP will take closer look at Mylan-specific loads.
 - ii. Consistent with earlier recommendations, VEIC confirms that GT will not be continued into 2015.
- Susie Wilson
 - i. Susie Wilson area peak loads for 2014 are down from 2013. This is largely due to the relatively mild weather in summer 2014.
 - ii. A significant gap remains between current loads and the level that would trigger the need for an upgrade. GMP will continue to monitor the area.
- Hinesburg
 - i. Planning analysis for the Hinesburg area continues.
 - ii. Two possible solutions include a new 115 kV to 12.47 kV substation and a new 34.5 kV to 12.47 kV substation.
 - iii. This area is winter peaking at 6:00 PM. The main issue is that the bulk of the load is eight miles away from the Charlotte substation supply. GMP will offload 2 MW of the Hinesburg load onto an existing VEC substation. There are 500 kW ability-to-serve requests that are outstanding. The protection limit for the area is 4500 kVA, the load will soon increase to 4100 kVA. This is very tight margin, especially when one considers that the Saputo cheese factory can, with little notice, bring on as much as 2000 kVA of load. GMP does not believe that DSM or DG are viable solutions. In addition, the loss benefits and reliability benefits from a new substation would be significant. Given these factors, GMP does not recommend a reliability plan for this area.

➤ Next steps

- The GT subcommittee will recommend to the full VSPC that no new areas require a reliability plan and that a complete Rutland area reliability plan is pending.
- Deena will reach out to VEC and Stowe.
- Next meeting: December 4th, 9:30 AM, DPS Giga Room.