Vermont System Planning Committee
Geographic Targeting Subcommittee
Meeting Notes
September 21, 2016 — 10 a.m. – noon

Participants: Melissa Bailey (VPPSA), Cyril Brunner (VEC), Evan Forward (public), Deena Frankel (VELCO), John Jockell (GMP), Kim Jones(GMP), Steve Litkovitz(GMP), Bill Powell (WEC), Andrew Quint (GMP), Nathaniel Vandal (supply resource rep), Gillian Welch, Dave Westman, Mike Wickenden (public), John Woodward (DPS).

John called the meeting to order and reviewed the agenda. Deena pointed out that the minutes of the last meeting had been circulated earlier, but were not recirculated for approval at this meeting. It was agreed she would recirculate and post if no comments were received by a date certain.

Mike asked for clarification of whether the discussion of potential revisions to the NTA screening tools, which DPS raised as a possibility during the VSPC charter development, was included as part of the utility project spreadsheet review (an item on the agenda). John responded that the two issues were separate and that DPS had had no further discussion of the screening tool revision thus far.

The GMP team presented the Hinesburg reliability issue (see presentations from this meeting in the Geotargeting Subcommittee library).

Kim summarized the background of the issue, which she said came to light two years ago. The challenge of the situation is that Hinesburg is fed from the Charlotte substation, which is eight miles away. The distance raises issues with voltage drop and motor starting. The large amount of solar in the area (4200 kW) causes fluctuations in voltage. The area has limited industrial load, but some commercial (school, former cheese factory, stores). GMP determined last year they would go forward with developing a reliability plan to consider all possible alternatives.

They determined that additional distributed generation would not help the area, since the 2014 system peak occurred Jan 2 at 6:30 p.m., when solar would not be helpful. With no farms in the immediate area, farm methane would not be helpful.

GMP commissioned a storage study by RES Americas, which was previously presented to the subcommittee.

See meeting slides for details of the options under consideration. Five scenarios were considered, as shown, with the focus now on Options 1 and 5.

Option 1 includes: a new joint Texas Hill Substation location with GMP spare bays via existing 34.5kV VEC transmission (with approximately one-mile long transmission line extension) and existing GMP/VEC Richmond Substation; GMP battery storage.

Option 5 includes: a rebuild of VEC's existing Rhode Island Corners Substation with spare bays for GMP to address future load growth; existing 34.5kV VEC Transmission and existing GMP/VEC Richmond Substation; GMP battery storage.

VEC must address its substation needs and be online in 2018. That need will probably be the driver for the timing of GMP's batteries as well.

Dave asked about why deferral costs were treated as an annual avoided cost. GMP stated that it could be done either as net present value (NPV) or an annualized cost, but annualizing provides a longer term view of the benefit. The other alternative is shown in the NPV table.

The scenarios presented are only from a GMP, not a societal, perspective.

Kim observed that Option 1 is not cost beneficial, but is also not cost prohibitive. The picture becomes more positive with more moderate load growth.

GMP wants to pursue the storage. Doing so could be very cost-beneficial for the area, depending on how load develops, and will provide the opportunity to learn more about storage. If the storage doesn't provide a sufficient level of benefit in operation, GMP will still have the opportunity to utilize the new substation. More discussion is between GMP and VEC to choose between Options 1 and 5. The model for shared costs and location is to be determined. VEC states that it has space limitations at its existing site, but it may be difficult to obtain land elsewhere.

GMP was asked if there is an incremental cost of keeping the bays open. Kim responded that not to do so would be a lost opportunity because the alternative in the event a sub is needed in the future would be the entire cost of the sub.

Dave observed that the annualization of the deferral benefit does not seem to take timing and depreciation into account. GMP responded that they plan to deploy storage, so why not do it where you can get some deferral benefit.

Nathaniel asked whether the existing line could handle the addition of batteries with their load and fast ramping during charging. GMP studies show the line can handle enough additional load for battery to participate fully in Option 1. In Option 5, with faster growth, GMP will not achieve the full benefit of the frequency market.

In essence, the VEC collaboration provides a backstop to make the battery viable.

The group discussed how fully developed the analysis needed to be for inclusion in the reliability plan. The purpose of the reliability plan is to determine whether a non-wires alternative is viable. The current analysis has answered that question and now GMP has a directional signal for the battery/substation option.

Nathaniel asked if the subcommittee could see the RES Americas report. Kim will check.

Evan asked if RES Americas wants to provide the battery. Kim said GMP would issue an RFP.

Dave Westman said it would be interesting to see what the power flows would look like with the batteries. What will the power industry learn from putting a battery at this location with high renewable penetration? This project represents a value proposition for learning by the larger New England grid, a very valuable aspect of putting the battery here. John observed that this is, in a sense, a pilot, and asked if it would make sense to have a research agenda to study it. It was observed that the benefits of potential research questions could be part of the benefit discussion in the CPG application.

Nathaniel offered that he has a lot of data on the different benefits of storage coupled with DG, including solid use models, and he offered to share the information. The group agreed to include this in a future agenda.

Once GMP has filed its reliability plan, Deena will fill in the blanks in the draft GT recommendation to the Public Service Board, which is due by November 1, and must be reviewed by the full VSPC on October 19. The subcommittee agreed to finalize the draft via email exchange.

Review of the charter and consideration of the utility project screening template will be moved to the next agenda.

The next meeting will be held November 2, 2016, from 10-noon, at the DPS Giga Room.