# VERMONT SYSTEM PLANNING COMMITTEE

October 31, 2013

Mrs. Susan Hudson, Clerk
Vermont Public Service Board
112 State Street
Montpelier, VT 05620

Re: Vermont System Planning Committee energy efficiency geotargeting recommendations

Dear Mrs. Hudson:

The Vermont System Planning Committee (VSPC) respectfully submits its recommendations for geographic targeting (GT) of energy efficiency in 2014, as requested by the Public Service Board (Board).[1] These recommendations were developed by the Geotargeting Subcommittee (GTS) of the VSPC and were adopted by the VSPC at a special meeting on 10/11/2013.

## SUMMARY

We make two recommendations in this letter:

- Continue GT in the St. Albans area.
- Discontinue GT in the Susie Wilson Road area.

Each of these recommendations is supported below.

## ST. ALBANS

*Recommendation summary:* Continue energy efficiency GT for the St. Albans area. Green Mountain Power (GMP) is currently developing a Reliability Plan for the St. Albans area as required by the Docket 7873 Screening Framework[2]. While updated GMP load forecasts reveal that there still exists a gap (resource need), preliminary estimates show that the gap could be addressed with targeted energy efficiency and other resources, assuming continuation of the currently approved targeting.

### *Background*

The St. Albans area is comprised of customer loads supplied by GMP's Nason Street, East St. Albans and North Elm Street substations. This area faces the potential of a summer reliability constraint for the loss of one of the area's 34.5 kV/12.47 kV 14 MVA substations in the event of a planned or unplanned transformer outage. The traditional upgrade would be to construct a new 34.5 kV/12.47kV substation at a cost of $1.5 million to maintain existing backup capability. In 2011, a GT

[1] EEU-2010-06 Public Service Board Order of 2/16/2012, p. 6.

[2] Docket 7873 & 7874 Attachment II, Screening Framework and Guidelines for Implementation of 30 V.S.A. § 8005a(d)(2)

program was developed for the period 2012 through 2014 with the goal of achieving sufficient demand savings to defer this substation construction for several years. The program was continued through 2013 with the plan for GMP to investigate other resources and to complete a Reliability Plan for the area.

### *Rationale for continuing GT in the St. Albans area*

- Recently completed load forecasts indicate that the gap for the St. Albans area may be less than the 2012 projection.
- The 2012 forecast was 32.15 MW based on a 90/10 forecast of 26.35 MW and expected 5.8 MW of ability to serve (new load) requests. The majority of load with outstanding ability-to-serve letters was not yet on line during this peak. In addition, GMP has received additional ability-to-serve requests for this area.
- The area's 2013 actual peak load occurred on July 17 at 6PM at 23.96 MW. Due to extreme weather over multiple days this load level is assumed to better represent a 90/10 load level than the previous forecast methodology.
- The new forecast is estimated to be 29.4 MW in 2013 with flat load growth thereafter assuming a 90% coincidence factor for the 6 MW of new load.
- Efficiency Vermont, as of the end of the second quarter, still expected to acquire approximately 1 MW of additional efficiency in the targeted area in order to meet its stretch target, provided the area remains designated as GT through 2014. This 1MW is a critical assumed resource to meet the near term gap.

On October 1, 2013, GMP filed with the Board an update on the status of reliability plan development for the St. Albans area. GMP indicated a November 25 filing date for the reliability plan, which GMP anticipates will identify a cost-effective mix of resources to fill the St. Albans reliability gap. [3]

## SUSIE WILSON ROAD

*Recommendation summary:* Discontinue energy efficiency GT for the Susie Wilson area because updated GMP load forecasts reveal that the date of need for the Susie Wilson substation project, under any reasonable scenario, is now well beyond the ten-year horizon generally considered appropriate for GT activities.

### *Background*

[3] Note: The St. Albans Reliability Plan Status Report filed with October 1, 2013, and the St. Albans geotargeting recommendation contained herein reflect two slightly different peak forecasts, 29.76 and 29.4 MW respectively. The difference between these is due to a slight difference in the amount of outstanding new load (ability-to-serve letters). The St. Albans Reliability Plan- Status Report assumed 5.8 MW at 100% coincidence. The St. Albans geotargeting recommendation assumed 6.0 MW at 90% coincidence. This small difference would not change the recommendation to continue Geotargeting for the St. Albans area. The final St. Albans Reliability Plan will provide the most updated number for outstanding ability-to-serve information and clearly state the assumption regarding coincidence.

The Susie Wilson GT area is comprised of customer loads supplied by GMP's Ethan Allen, Essex and Gorge substations. This area is potentially constrained by both feeder capability and substation transformer capacity. When this area was selected for continued GT in 2011 it was experiencing 3 percent annual load growth together with the construction of facilities associated with a large industrial customer. Forecasts at the time indicated that a new 115 kV/12.47 kV substation would be needed within 10 years at a cost of $8 million. In 2011, a GT program was developed for the period 2012 through 2014 with the goal of achieving sufficient demand savings to defer substation construction by one year. The program was continued through 2013 even though updated load forecasts in 2012 indicated that the substation date of need had slipped to just beyond the 10-year horizon.

### *Rationale for Discontinuing GT in the Susie Wilson Area*

Recently completed load forecasts now indicate that the date of need for the Susie Wilson substation project, under any reasonable scenario, is well beyond the ten-year horizon generally considered appropriate for GT activities. This forecast is informed by the following:

- To date, a large industrial customer in the area has installed 4,000 kW of connected load as part of its expansion and new construction plans. At the peak load for this area, in July 2013, this load was realized as 1,685 kW.
- This realized peak load of 42% (1,685/4,000) is significantly less than the 75% assumed in previous years' forecasts.
- Discussions with the area's industrial customer revealed that the customer's peak manufacturing activity occurs in the September to December timeframe in preparation for holiday season sales.
- The area's 2013 peak loads occurred on July 17, 18 and 19, coincident with the statewide and New England peaks, and were driven by extreme weather. These loads are realized 90/10 loads.
- The area's industrial customer anticipates 1,100 kW of new connected load for 2014 plus an additional 1,200 kW of connected load associated with future expansions. While this additional 1,200 kW is uncertain, for forecasting purposes it is assumed to be installed in 2015. All new load for this industrial customer is assumed to be realized at peak as 42% of connected load, consistent with measured 2013 data.
- Ability-to-serve requests in this area in 2013 have been modest—720 kW connected—and are not expected to influence forecast results.
- An error in interpreting feeder load data several years ago resulted in an over-forecast of area loads by 3 MW.
- Recent data indicates that background load growth has slowed to below 2%.

GMP combined the information above into the series of load forecasts shown below. The table is included to illustrate that, even under aggressive background load growth assumptions, the date of need for a new substation is well beyond 10 years. For this reason, the VSPC recommends discontinuing geotargeting for the Susie Wilson area. GMP will continue to monitor the area and annually update the VSPC.

## Susie Wilson Area Load Forecasts Under Varying Background Load Growth Assumptions

(Highlighted cells indicate the year of need for the substation upgrade)

| Critical Load Level: 52.7 MW | | | | | |
|---|---|---|---|---|---|
| Year | Forecast with 1% Background Growth (MW) | Forecast with 1.5% Background Growth (MW) | Forecast with 2% Background Growth (MW) | Forecast with 2.5% Background Growth (MW) | Forecast with 3.0% Background Growth (MW) |
| 2013 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 |
| 2014 | 36.8 | 37.0 | 37.1 | 37.3 | 37.5 |
| 2015 | 37.7 | 38.0 | 38.4 | 38.8 | 39.1 |
| 2016 | 38.0 | 38.6 | 39.2 | 39.7 | 40.3 |
| 2017 | 38.4 | 39.2 | 39.9 | 40.7 | 41.5 |
| 2018 | 38.8 | 39.8 | 40.7 | 41.7 | 42.8 |
| 2019 | 39.2 | 40.4 | 41.6 | 42.8 | 44.0 |
| 2020 | 39.6 | 41.0 | 42.4 | 43.9 | 45.4 |
| 2021 | 40.0 | 41.6 | 43.2 | 44.9 | 46.7 |
| 2022 | 40.4 | 42.2 | 44.1 | 46.1 | 48.1 |
| 2023 | 40.8 | 42.8 | 45.0 | 47.2 | 49.6 |
| 2024 | 41.2 | 43.5 | 45.9 | 48.4 | 51.1 |
| 2025 | 41.6 | 44.1 | 46.8 | 49.6 | 52.6 |
| 2026 | 42.0 | 44.8 | 47.7 | 50.9 | 54.2 |
| 2027 | 42.4 | 45.5 | 48.7 | 52.1 | 55.8 |
| 2028 | 42.9 | 46.1 | 49.7 | 53.4 | 57.5 |
| 2029 | 43.3 | 46.8 | 50.7 | 54.8 | 59.2 |
| 2030 | 43.7 | 47.5 | 51.7 | 56.1 | 61.0 |
| 2031 | 44.2 | 48.2 | 52.7 | 57.5 | 62.8 |
| 2032 | 44.6 | 49.0 | 53.8 | 59.0 | 64.7 |
| 2033 | 45.0 | 49.7 | 54.8 | 60.4 | 66.6 |
| 2034 | 45.5 | 50.5 | 55.9 | 62.0 | 68.6 |
| 2035 | 45.9 | 51.2 | 57.0 | 63.5 | 70.7 |
| 2036 | 46.4 | 52.0 | 58.2 | 65.1 | 72.8 |
| 2037 | 46.9 | 52.8 | 59.3 | 66.7 | 75.0 |
| 2038 | 47.3 | 53.5 | 60.5 | 68.4 | 77.2 |
| 2039 | 47.8 | 54.3 | 61.7 | 70.1 | 79.5 |
| 2040 | 48.3 | 55.2 | 63.0 | 71.9 | 81.9 |
| 2041 | 48.8 | 56.0 | 64.2 | 73.7 | 84.4 |

The VSPC has filed this recommendation earlier than in prior years to maximize the notice and ramp-down time to Efficiency Vermont for the Susie Wilson Road area, assuming Board approval. In future years, the process improvement efforts for geotargeting filed with the Board on October 4, 2013, include adjustments in the annual calendar for VSPC GT recommendations that are consistent with this year's earlier filing and that we look forward to discussing with the Board at the workshop scheduled for November 12, 2013.

Respectfully submitted,

s/

Deena L. Frankel, Secretary
Vermont System Planning Committee

cc. Department of Public Service