

Recommendation to Discontinue Geotargeting in the Green Mountain Power Susie Wilson Area

October 2013

Introduction

The Vermont System Planning Committee (VSPC) Geotargeting Subcommittee (GTS) recommends discontinuing energy efficiency geographic targeting (GT) for the Susie Wilson area. Updated Green Mountain Power (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

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. These forecasts indicate 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 GTS recommends discontinuing geotargeting for the Susie Wilson area. GMP will continue to monitor the area and annually update the VSPC GTS.

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