EE&F Action Items Requested

- VSPC recommendations to the Public Service Board:
  - Continue Geotargeting the “St. Albans” area**
  - Continue to Geotarget “Susie Wilson” area
- VSPC authority for the EE&F to:
  - Draft memo to PSB
  - Following provision of memo to VSPC via email and 1 week comment period, if no objection then file recommendations with PSB
- **The Original Version of these slides recommended discontinuation of the St. Albans Geotargeted area. As noted, certain assumptions in analysis have undergone additional review. This update is a result of that review.

St. Albans GT - Refresher

- Summer reliability constraint from the loss of one of the area's 34.5/12.47 kV substations in the event of a planned or unplanned transformer outage.
- Solution: Construction of a new 34.5/12.47 kV substation to maintain existing backup capability ($1.5million = $250k/yr deferral value)
- $4 million of GT EE approved by PSB in order to delay project, allow for other resources to come online, avoid project entirely

St. Albans - 2011 analysis

CVPS ST. ALBANS FORECAST

Critical Load level=28

Year	50/50 forecast (MW)	90/10 forecast (MW)	Ability to serve letters 1.5MW * 90%; 0.5MW ancillary growth	Total Estimated Load	Est. EE embedded in forecast	EE or other resources needed	Available EE (baseline plus incremental)
2012	25.45	26.4		26.4	0.5	-1.1	
2013	25.45	26.4	1.35	27.75	0.5	0.75	1.8
2014	25.45	26.4	1.85	28.25	0.5	1.75	
2015	25.45	26.4	1.85	28.25	0.5	2.25	
2016	25.45	26.4	1.85	28.25	0.5	2.75	
2017	25.45	26.4	1.85	28.25	0.25	3	
2018	25.45	26.4	1.85	28.25	0	3	
2019	25.45	26.4	1.85	28.25	0	3	
2020	25.45	26.4	1.85	28.25	0	3	

St. Albans – New circumstances

- Load remained constant
- Unexpected industrial load 4+MW load
  - Facility under construction
  - High load factor
  - No interest in Demand Response or higher voltage network connection
- 1.5MW retail store anticipated previously is also under construction
- Energizer plant closure has no effect (since fed off 34.5kV

St. Albans Considerations

- 2012 peak 5pm; 2011 peak 3pm
- Is deferral value greater than re-allocating statewide?
  - Previous draft analysis required deferral until 2040 to make continued GT investment more beneficial than statewide reallocation.
  - Revised Draft analysis, using updated energy costs, EE costs, remaining funds shows deferral between 4 and 7 years necessary
- Impacts of AMI, Volt/VAR Distribution Automation Systems, new standard offer
  - Qualitative consideration of additional costs or benefits

St. Albans 2012 analysis

							Critical Load level		28
Year	50/50 forecast (MW)	90/10 forecast (MW)	Ability to serve letters * .75 coincidence (MW)	Total Estimated 90/10 Load (MW)	Est. EE embedded in forecast (MW)	**EE or other resources needed (MW)**	DG or other offsetting gen cumulative MW	Available EE MW	Remaining Resource Need (MW)
2012	25.31								
2013	25.45	26.35	5.80	32.15	0.43	4.58	0.77		
2014	25.45	26.35	5.80	32.15	0.43	5.01	0.77	1.600	2.64
2015	25.45	26.35	5.80	32.15	0.43	5.43	0.77	0.233	
2016	25.45	26.35	5.80	32.15	0.43	5.86	0.77	0.233	
2017	25.45	26.35	5.80	32.15	0.43	6.29	0.77	0.233	3.22
2018	25.45	26.35	5.80	32.15	0.00	6.29	0.77	0.233	
2019	25.45	26.35	5.80	32.15	0.00	6.29	0.77	0.233	
2020	25.45	26.35	5.80	32.15	0.00	6.29	0.77	0.233	2.52

Modifications from previously provided slides:

- Estimated Embedded EE Decreased – Historical data
- Known standard offer – capacity adjusted by equivalence factor – 35%
- 2012 estimates removed

New 2012 Assumptions (both previously provided and current slides)

- Other Assumptions–
  - 0.233 MW
  - 0 MW thereafter
- Available EE 2012-2014 is 1.8 minus that achieved in Q1-Q3 2012

St. Albans 2012 Analysis – Favorable Assumptions

									Critical Load level	28
Year	50/50 forecast (MW)	90/10 forecast (MW)	Ability to serve letters * .75 coincidence (MW)	Total Estimated 90/10 Load (MW)	Est. EE embedded in forecast (MW)	**EE or other resources needed (MW)**	DG or other offsetting gen cumulative MW	Available EE MW	Remaining Resource Need (MW)	
2012	25.31									
2013	25.32	26.22	5.80	32.02	0.43	4.45	0.88			
2014	25.32	26.22	5.80	32.02	0.43	4.87	0.88	1.84	2.15	
2015	25.32	26.22	5.80	32.02	0.43	5.30	0.88	0.47		
2016	25.32	26.22	5.80	32.02	0.43	5.73	0.88	0.47		
2017	25.32	26.22	5.80	32.02	0.43	6.15	0.88	0.47	2.03	
2018	25.32	26.22	5.80	32.02	0.00	6.15	0.88	0.47		
2019	25.32	26.22	5.80	32.02	0.00	6.15	0.88	0.47		
2020	25.32	26.22	5.80	32.02	0.00	6.15	0.88	0.47	0.63	

"Favorable Assumptions":

- Lower 50/50 forecast
- Higher equivalency of known solar (40%)
- EVT acquires additional EE in 2012-2014 above goals
- Additional potential beyond baseline is acquired in future years
- No assumptions for effects of AMI, DR, or VAR control systems

St. Albans Recommendations

- Continue Geotargeting in St. Albans – reassess again in 2013
  - Continued uncertainty with actual load of new customers
  - DR, AMI installation, VAR control systems offer other mechanisms
  - Standard Offer process could help
  - Unlike draft analysis provide last week, deferral of 4-7 years is more plausible
    - Because need is declining, long-term avoidance possible with significantly greater benefits
- Next steps (potentially outside of VSPC?): Developing Funding Mechanisms

Susie Wilson area - refresher

- Area served by GMP's Ethan Allen, Essex and Gorge substations is constrained by both feeder capability and substation transformer capacity.
- 3 percent annual load growth over the previous five years
- Absent GT, a new 115 kV/12.47 kV substation would be needed by 2017 at a cost of $8 million.
- $2.5 million incremental EE approved – deferral value for one year $1.4million

Susie Wilson – 2011 Analysis

Original 12-1-11 included impact of renewables				
Critical Load Level				53
Year	50/50 forecast (MW) [N2]	90/10 forecast (MW) [N1]	"High Scenario" (MW)	Incremental GT EE needed [N3]
2012	41.5	43.0		(10.0)
2013	44.7	46.2		(6.8)
2014	46.3	48.2		(4.8)
2015	47.9	49.9		(3.1)
2016	49.5	51.0		(2.0)
2017	51.1	53.1		0.08
2018	52.6	54.5		1.46
2019	54.2	56.3		3.3
2020	55.7	57.9		4.9
2021	57.3	59.4		6.4
2022	58.8	61.0		8.0
2023	60.3	62.6		9.6
2024	61.8	64.1		11.1
2025	63.3	65.7		12.7
2026	64.8	67.2		14.2
2027	66.3	68.8		15.8
2028	67.7	70.3		17.3
2029	69.2	71.8		18.8
2030	70.6	73.3		20.3
2031	72.1	74.8		21.8

Susie Wilson - new circumstances

- Corrupt SCADA data inflated 2011 loads by 3MW
- Load Growth in area less than expected
- Large industrial load online later than expected
- Greater EE potential than originally expected (200kW/yr added to baseline acquired)

Susie Wilson – 2012 Analysis

Susie Wilson Load Forcast as of 11-27-12				
Critical Load Level				52.7
Year	50/50 forecast (MW) [N2]	90/10 forecast (MW) [N1]	"High Scenario" (MW)	Incremental GT EE needed [N3]
2012	35.8	35.8		(16.9)
2013	40.1	41.4		(11.3)
2014	41.4	43.1		(9.6)
2015	42.3	44.0		(8.7)
2016	43.2	44.6		(8.1)
2017	44.1	45.9		(6.8)
2018	45.0	46.6		(6.1)
2019	45.9	47.7		(5.0)
2020	46.8	48.6		(4.1)
2021	47.6	49.5		(3.2)
2022	48.5	50.3		(2.4)
2023	49.3	51.2		(1.5)
2024	50.1	52.0		(0.7)
2025	50.9	52.8		0.14
2026	51.7	53.6		0.95
2027	52.5	54.4		1.7
2028	53.2	55.2		2.5
2029	53.9	56.0		3.3
2030	54.6	56.7		4.0
2031	55.3	57.4		4.7

Susie Wilson Considerations

- New need date – 2025
- Industrial load not fully online and true impact of load uncertain
- Economy not fully recovered – forecasted growth could change
- Program delivery considerations
- Adjustments in acquisition rate

Susie Wilson Recommendations

- Continue Geotargeting & reassess in 2013
- Do not increase acquisition rate of EE or the GT budget for this area