VERMONT

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April 16, 2014

Susan M. Hudson, Clerk
Vermont Public Service Board
112 State Street
Montpelier, VT 05620-2701

Re: EEU 2013-01 Public Service Department 2015-2017 Budget Recommendations

Dear Mrs. Hudson:

The Public Service Department ("Department") is pleased to present herein its analysis and budget recommendations for Vermont's Energy Efficiency Utilities ('EEU") – Efficiency Vermont ("EVT"), as operated by Vermont Energy Investment Corporation ("VEIC"), and Burlington Electric Department ("BED"). The Public Service Board ("Board") in its April 4, 2014 memo established today as the deadline for stakeholders in EEU 2013-01,the Demand Resource Plan ("DRP") proceeding to file EEU budget and savings recommendations, including:

1. Electric resource acquisition budgets and savings,
2. TEPF resource acquisition budgets and savings,
3. Non-resource acquisition budgets (allocated between electric and TEPF funding) and descriptions,
4. EEU compensation (QPI award and operations fees) rates and budgets,
5. DPS evaluation plan and budget,
6. EEU Fiscal Agent and EEU Fund audit budgets and,
7. Impact of budget recommendations on electric consumers' rates and bills.

Based on the results of the Department's analysis and for the reasons set forth in this memorandum, the Department recommends that electric resource acquisition budgets for EVT and BED be set at a pace largely consistent with Scenario 2 as defined in the Board's Order of September 9, 2013. Scenario 2 is budget constrained and was modeled by VEIC and BED to *"acquire all economically achievable potential through the extension of the current 2012-2031 DRP through 2034, with the 2032-2034 annual budgets increased at the same rate as the average year in 2018-2031."*[1]

The Department's recommendation balances all relevant statutory and policy objectives, supporting a measured expansion of EEU program capacity that takes into consideration the impact on customer rates and bills of gradually increasing electric efficiency budgets. At the rate of electric resource acquisition recommended herein for the 2015-2017 performance period, the Department estimates EVT and BED would achieve annual incremental MWh savings of

[1] Order of September 9, 2013 in EEU 2013-01.

approximately 2.25% and 2.32% of electric sales by 2017 in their respective territories. These estimates assume that the EEUs will outperform the modeled savings. This assumption is made on the basis of current trends. In this performance period, for example, VEIC has outperformed the modeled expected savings by more than 15%, and the modeling framework for this DRP is similar to that used in the 2011 DRP.

Exhibit 1 is a summary of the Department's recommendation for years 2015-2017. The attached Excel spreadsheet titled "*2015-2017 PSD DRP Recommendation*" details the full set of recommended budgets for the forecast period, in nominal dollars, on the tab titled "*DPS Recommendation*".[2] The full 3 and 10 year TEPF and 3 and 20 year EEC budget recommendation is also attached to the memo as a hard copy titled "Attachment A: PSD DRP Recommendation".

EEU Budget 2015-2017

	2015	2016	2017	3-yr Total
Funded via EEC				
Electric Resource Acquisition				
Efficiency Vermont	$39,351,359	$42,460,068	$45,555,423	$127,366,850
RA R&D	$1,377,298	$1,804,553	$1,822,217	$5,004,067
BED	$2,337,666	$2,513,980	$2,696,148	$7,547,794
RA R&D	$81,818	$106,844	$107,846	$296,508
Customer Credit Program Participant	$989,400	$1,009,188	$1,029,372	$3,027,960
Non-Resource Acquisition				
Efficiency Vermont	$4,217,048	$4,177,272	$4,260,432	$12,654,752
BED	$230,076	$234,700	$239,300	$704,076
Operations Fee and QPI Award	$1,842,774	$1,986,118	$2,117,161	$5,946,052
DPS Evaluation	$1,319,400	$1,319,400	$1,319,400	$3,958,200
Fiscal Agent	$33,244	$33,244	$33,244	$99,731
Fiscal Agent Audit	$19,946	$19,946	$19,946	$59,839
EEC-Funded Subtotal	$51,800,029	$55,665,313	$59,200,489	$166,665,830
Funded via FCM and RGGI				
Heating-and-Process-Fuel Resource Acquisition				
Efficiency Vermont	$5,349,342	$5,856,090	$6,256,375	$17,461,807
BED	$96,390	$98,318	$100,284	$294,992
Non-Resource Acquisition				
Efficiency Vermont	$575,052	$569,628	$580,968	$1,725,648
BED	$10,700	$11,000	$11,200	$32,900
Operations Fee and QPI Award	$242,900	$263,454	$280,331	$786,686
DPS Evaluation	$773,600	$773,600	$773,600	$2,320,800
FCM and RGGI-Funded Subtotal	$7,047,984	$7,572,091	$8,002,758	$22,622,832
			Total 2015-2017 EEU Program Budget	**$189,288,662**

Exhibit 1 – Public Service Department Recommended EEU Budget 2015-17

[2] For reference the 2012-2014 budget funded via the EEC was ordered as $129M.

The Department's EEU budget recommendation for the entire 20 and 10 year EEC and TEPF planning periods use the same templates the Board requested stakeholders use in the inaugural DRP[3]. Because there was no Customer Credit Program ("CCP") participant enrolled during in the inaugural DRP, the CCP has been added to the EEC Electric Resource Acquisition category within the template.

The Department's recommendation includes the components below which are discussed in the greater detail throughout this document.

1. 3 and 20 year resource acquisition budgets and estimated savings associated with the electric Energy Efficiency Charge ("EEC") for EVT and BED,
2. 3 and 10 year resource acquisition budgets and estimated savings for thermal energy and process fuel ("TEPF") efficiency programs for EVT and BED,
3. Non-resource acquisition budgets for EVT and BED,
4. VEIC compensation which includes an operations fee and performance award ,
5. The Department's EEU evaluation plan and budget,
6. Other costs including Fiscal Agent and Fiscal Agent Audit fees,
7. Impact on customer's rates and bills.

Rate and Bill Impacts of Modeled Electric Energy Efficiency Budgets

In formulating the Department's overall budget recommendation, Synapse Energy Economics, Inc. ("Synapse") was commissioned to perform an analysis of the rate and bill impacts of the resource acquisition scenarios modeled by VEIC and BED.[4] Typically, the acquisition of additional cost-effective energy efficiency resources results in lower bills for participants, and for customers on average, but produces higher rates for all customers.

In order to present a more complete picture of the rate and bill impact of potential recommended budgets, the Department provided Synapse with not only the resource acquisition budgets modeled by the EEUs, but also with estimates of NRA budgets, compensation, and other costs based on the previous 2012-2031 approved DRP.[5] The study timeframe considers 20 years of electric efficiency investment, along with the impacts associated with that investment for the life of the measures. The resulting report describing the magnitude of rate and bill impacts by scenario and sector is provided with this filing.

The Synapse analysis calculates rate impacts based on changes in revenue requirements associated with each of the individual components that comprise rates, including generation (energy and capacity), transmission, distribution, and other costs, and changes in expected

[3] Issued via Board memo in EEU-2010-06 on April 22, 2011

[4] The Department requested Synapse to examine the rate and bill impacts of the scenarios submitted to the PSB by VEIC on December 6th, 2013, and by BED on January 9, 2014. The Department recently discovered a discrepancy between the PSB Ordered Scenarios and what was modeled by VEIC. This was acknowledged by VEIC in a letter to the Board on April 8, 2014. Given the timing of this discovery, it was not feasible to conduct a new rate and bill impact analysis using revised information. The magnitude of rate and bill impacts associated with the Department's recommendation is correctly illustrated by the analysis. The Department does not believe an updated analysis is warranted at this time.

[5] At the time the Synapse analysis was conducted, the specific recommendations for these other budget components were not fully established so estimates from the prior approved DRP budget were used as a reliable proxy to project the magnitude of rate and bill impacts.

electricity sales due to energy efficiency programs. The average retail rate per kWh in a given year is the sum of the rate for each component, calculated by dividing the revenue requirement for that component by total energy sales in that year. Efficiency savings avoid costs such as those related to capacity in particular, and also for transmission and distribution, causing a downward pressure on rates. However, upward pressure on rates is created by the efficiency budgets, along with the need to recover fixed costs over a lesser amount of sales.[6] The Department finds the Synapse estimates to be a reasonable, somewhat conservative estimate of the rate and bill impacts for the following two reasons: First, the analysis assumes that "lost" revenues associated with recovering distribution costs are all recovered in rates, even though this might not be true in all cases. Second, as noted earlier, the Department believes more savings will be acquired than was modeled, based on past performance of EEUs in exceeding savings levels modeled in the DRP.

The EVT service territory rate impact for each modeled Scenario relative to a hypothetical scenario of zero efficiency investment is illustrated in Exhibit 2 for each of three customer types.[7] Based on these changes in rates and usage, annual bill impacts can be calculated for average or example participants in each sector.

Efficiency Vermont Territory Rate Impacts relative to No EE by Customer and VEIC Modeled Scenario

	Residential Customers			Bus Non-Demand			Business Demand		
	S.1 (Low)	S.2 (DRP)	S.3 (High)	S.1 (Low)	S.2 (DRP)	S.3 (High)	S.1 (Low)	S.2 (DRP)	S.3 (High)
2015	6.4%	6.4%	7.9%	4.5%	4.5%	5.6%	4.90%	4.90%	6.07%
2016	6.5%	6.8%	8.8%	4.4%	4.6%	6.0%	4.57%	4.59%	6.29%
2017	6.4%	7.0%	9.6%	4.1%	4.5%	6.3%	4.13%	4.37%	6.44%
2018	6.1%	6.7%	10.2%	3.7%	4.1%	6.5%	3.58%	3.83%	6.57%
2019	5.8%	6.5%	10.5%	3.3%	3.7%	6.4%	3.09%	3.34%	6.34%
2020	5.2%	6.0%	10.7%	2.3%	2.7%	5.5%	2.01%	2.25%	5.47%
2021	4.8%	5.5%	11.0%	1.7%	2.1%	5.3%	1.28%	1.52%	5.17%
2022	4.6%	5.4%	10.8%	1.5%	1.9%	5.0%	0.91%	1.16%	4.59%
2023	4.7%	5.6%	10.5%	1.3%	1.7%	4.2%	0.57%	0.84%	3.59%
2024	4.4%	5.3%	9.8%	1.0%	1.5%	3.7%	0.22%	0.48%	2.88%
2025	4.2%	5.2%	9.1%	0.8%	1.3%	3.3%	-0.08%	0.18%	2.19%
2026	4.1%	5.0%	8.5%	0.6%	1.1%	2.8%	-0.36%	-0.12%	1.58%
2027	3.9%	4.8%	8.1%	0.7%	1.1%	2.6%	-0.25%	0.13%	1.40%
2028	3.8%	4.7%	7.8%	0.7%	1.2%	2.5%	-0.12%	0.30%	1.36%
2029	3.7%	4.7%	7.6%	0.9%	1.4%	2.6%	0.27%	0.88%	1.70%
2030	3.5%	4.4%	7.0%	0.9%	1.4%	2.5%	0.31%	0.83%	1.70%
2031	3.4%	4.4%	6.6%	0.7%	1.3%	2.2%	0.09%	0.51%	1.23%
2032	3.3%	4.3%	6.2%	0.9%	1.5%	2.3%	0.40%	1.06%	1.59%
2033	3.2%	4.2%	6.0%	0.9%	1.5%	2.2%	0.46%	1.02%	1.55%
2034	3.0%	4.1%	5.6%	0.9%	1.5%	2.2%	0.48%	1.06%	1.81%

[6] Energy efficiency programs affect rates somewhat differently for a utility like BED than they do for GMP, other municipal utilities or coops. This is attributable in part to the fact that BED owns a significant amount of generation, so reductions in load at a time where the utility is long on energy would lead to more generation available for sale in the marketplace, which in turn would likely enable BED to offer lower rates. Synapse and the Department made simplifying assumptions to model impacts across all types of utilities.

[7] Synapse's report considers the "base" case, or Scenario 2, versus no efficiency, and the low and high cases relative to Scenario 2. Exhibit 2 was developed by the Department using Synapse workbooks.

2035	-0.5%	-0.5%	-0.7%	-1.2%	-1.3%	-1.7%	-1.92%	-2.06%	-2.69%
2036	-0.4%	-0.5%	-0.6%	-1.0%	-1.1%	-1.4%	-1.63%	-1.73%	-2.23%
2037	-0.3%	-0.4%	-0.6%	-0.8%	-0.9%	-1.1%	-1.36%	-1.43%	-1.82%
2038	-0.3%	-0.3%	-0.4%	-0.7%	-0.7%	-0.9%	-1.11%	-1.16%	-1.45%
2039	-0.2%	-0.2%	-0.3%	-0.5%	-0.6%	-0.7%	-0.90%	-0.93%	-1.13%
2040	-0.1%	-0.2%	-0.2%	-0.3%	-0.5%	-0.5%	-0.55%	-0.72%	-0.84%
2041	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.2%	-0.39%	-0.52%	-0.38%
2042	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.1%	-0.24%	-0.16%	-0.18%
2043	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	-0.11%	-0.08%	0.00%

Exhibit 2 – EVT Territory Rate Impacts by VEIC Modeled Scenario and Customer Type

As is shown in Exhibit 2, rate impacts in EVT's territory are similar for Scenarios 1 and 2, but increase significantly in the early years for Scenario 3, which has substantially higher modeled budgets. For the residential sector, the maximum rate impact of Scenario 2 is 7%, while the average is much lower. This is because the savings from efficiency accrue over time, while all of the costs are borne by the ratepayer in the first year. This phenomenon occurs in the commercial non-demand and demand customers sectors as well, with the maximum rate impact in any one year being 4.6% and 4.9%, respectively, for Scenario 2, with an average rate impact over time that is much lower. Scenario 3, however, results in maximum annual rate impacts of 11%, 6.5%, and 6.6% for the residential, commercial non-demand, and commercial demand customers, respectively. These differences are not unexpected, as the incremental costs between Scenario 2 and 3 as modeled are significant (close to $500 million over twenty years) while the benefit to cost ratio for programs incremental to Scenario 2 are less robust than those that result from programs under Scenario 2.

It is imperative to view rate impacts in the context of average bill impacts. Bill impacts are calculated by taking the percent change between each sector's electricity costs before and after accounting for energy efficiency impacts. Calculated in this manner bill impacts reflect both the impacts of changes in rates (as indicated in Exhibit 2) as well as changes in bills, across all customers within a sector on average.

While rates increase in most years of the study period, the average[8] customer bill decreases in nearly all cases. Exhibit 3 compares bills after efficiency is implemented under Scenario 2 to a no energy efficiency scenario (the first set of columns). Then the result under Scenario 1 is compared to that from Scenario 2 (the center set of columns) and Scenario 3 is compared to Scenario 2 (the rightmost columns).

[8] The estimated 'average' customer demand can be found on pages 24-5 of the Synapse report.

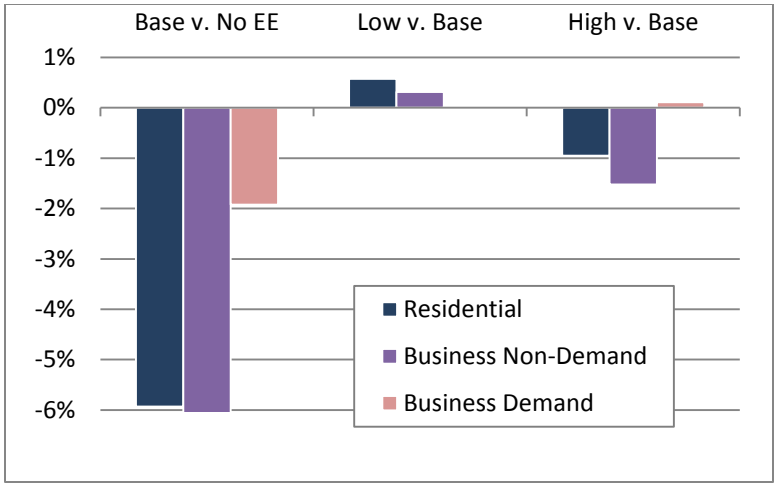

Exhibit 3 – Efficiency Vermont Long-Term Average Bill Impacts by Sector; Scenario

For EVT, over the study period, average bills under Scenario 2 decrease relative to no efficiency by approximately 6% for both the residential and commercial non-demand customers, and by nearly 2% for commercial demand customers. Implementation of Scenario 1, with lower energy efficiency budgets, would result in slightly higher average bills than under Scenario 2 (with virtually no change for commercial demand customers), and Scenario 3 would result in slightly lower bills than Scenario 2.

Exhibit 1 shows that Scenario 3 has significantly higher rate impacts than Scenario 2, while the desirable decrease in bill impacts of Scenario 3 relative to Scenario 2 are more modest. By recommending budgets more similar to Scenario 2, the Department strikes a reasonable balance between the immediate rate impacts and the long term bill impacts of efficiency.

The rate and bill impact analysis for Burlington Electric Department affords a similar result, as illustrated below.

Burlington Electric Territory Rate Impacts relative to No EE by Customer and BED Modeled Scenario									
	Residential Customers			Bus non-Demand			Business Demand		
	S.1 (Low)	S.2 (DRP)	S.3 (High)	S.1 (Low)	S.2 (DRP)	S.3 (High)	S.1 (Low)	S.2 (DRP)	S.3 (High)
2015	4.9%	4.9%	7.4%	4.9%	4.9%	7.3%	4.7%	4.7%	7.1%
2016	5.3%	5.5%	8.6%	5.3%	5.5%	8.5%	4.9%	4.8%	8.0%
2017	5.7%	6.1%	10.1%	5.5%	6.0%	9.8%	4.9%	5.1%	8.9%
2018	5.6%	6.1%	11.4%	5.6%	6.1%	11.1%	4.9%	5.1%	10.0%
2019	5.6%	6.2%	12.7%	5.5%	6.1%	11.8%	4.7%	5.1%	10.6%
2020	4.9%	5.5%	12.8%	4.8%	5.4%	11.4%	4.1%	4.6%	10.5%
2021	4.8%	5.4%	13.1%	4.6%	5.2%	11.1%	3.8%	4.3%	10.0%
2022	4.9%	5.6%	13.4%	4.8%	5.4%	11.1%	3.9%	4.4%	9.7%
2023	5.0%	5.7%	13.3%	4.9%	5.5%	10.8%	3.8%	4.5%	9.2%
2024	4.8%	5.6%	12.8%	4.9%	5.7%	10.5%	3.8%	4.6%	8.7%
2025	4.7%	5.6%	12.4%	5.0%	5.8%	10.3%	3.8%	4.7%	8.3%
2026	4.6%	5.5%	11.9%	5.1%	6.0%	10.2%	3.8%	4.8%	7.9%
2027	4.6%	5.5%	11.5%	5.2%	6.1%	10.0%	3.8%	4.9%	7.5%
2028	4.6%	5.5%	10.9%	5.1%	6.0%	9.5%	3.8%	5.1%	7.0%

2029	4.6%	5.5%	10.4%	5.0%	6.0%	9.0%	3.8%	5.1%	6.5%
2030	4.5%	5.6%	10.0%	4.9%	5.9%	8.5%	3.8%	5.1%	6.1%
2031	4.5%	5.6%	9.5%	4.8%	5.9%	8.0%	3.7%	5.1%	5.7%
2032	4.5%	5.6%	9.1%	4.7%	5.8%	7.5%	3.7%	5.0%	5.4%
2033	4.4%	5.6%	8.7%	4.6%	5.7%	7.1%	3.7%	5.0%	5.1%
2034	4.4%	5.6%	8.3%	4.5%	5.6%	6.7%	3.6%	5.0%	4.8%
2035	0.2%	0.3%	0.4%	0.9%	1.0%	0.1%	0.0%	0.3%	-1.8%
2036	0.2%	0.2%	0.4%	0.8%	0.8%	0.1%	0.0%	0.2%	-1.5%
2037	0.2%	0.2%	0.3%	0.7%	0.7%	0.1%	0.0%	0.2%	-1.3%
2038	0.2%	0.2%	0.2%	0.6%	0.6%	0.1%	0.0%	0.2%	-1.1%
2039	0.1%	0.1%	0.2%	0.5%	0.6%	0.1%	0.0%	0.2%	-0.9%
2040	0.1%	0.1%	0.1%	0.4%	0.5%	0.1%	0.0%	0.2%	-0.7%
2041	0.1%	0.1%	0.1%	0.4%	0.4%	0.1%	0.0%	0.2%	-0.6%
2042	0.0%	0.0%	0.0%	0.3%	0.3%	0.1%	0.0%	0.1%	-0.5%
2043	0.0%	0.0%	0.0%	0.2%	0.2%	0.0%	0.0%	0.1%	-0.3%

Exhibit 4 – BED Territory Rate Impacts by BED Modeled Scenario and Customer Type

Exhibit 4 shows that for BED, Scenarios 1 and 2 have similar overall rate impacts, with the results under Scenario 2 being slightly higher. Scenario 2's maximum annual rate impact is 6.2% for the residential sector, 6.1% for commercial non-demand customers, and 5.1% for commercial demand customers, with average rate impacts that are much lower. Scenario 3's rate impacts are significantly higher than the other Scenarios, with a maximum annual rate impact of 13.4%, 11.8%, and 10.6% for residential, commercial non-demand, and demand customers respectively, with average rate impacts much lower. Similar to the analysis for EVT, the cost of saved energy associated with Scenario 3 is much higher. In other words, the benefit cost ratio of the scenario, while still positive, is much lower than for Scenarios 1 and 2. The Department finds that for BED, the relative level of annual rate impact between Scenario 3 and Scenario 2, notwithstanding increased average bill reductions over time as described below, was not reasonable.

As described above, and similar to the EVT analysis, while the study period average rate impact increases, the average customer bill decreases in nearly all cases. The chart below compares bills after efficiency is implemented under Scenario 2 to a no energy efficiency scenario (the first set of columns). Then, Scenario 1 is compared to Scenario 2 (the center set) and Scenario 3 is compared to Scenario 2 (the rightmost columns).

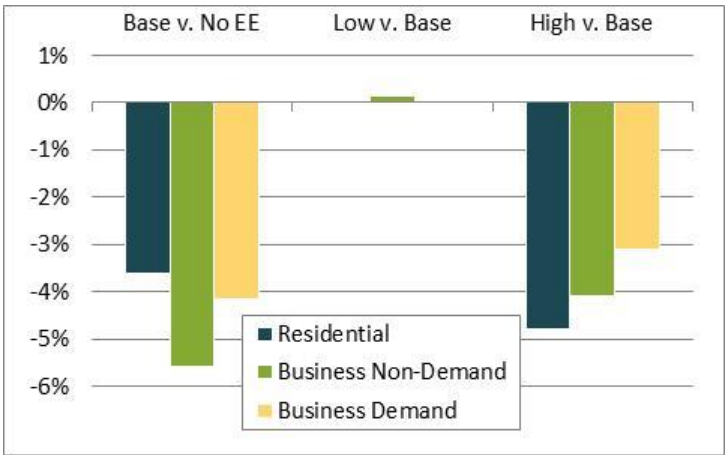

Exhibit 5- BED Long-Term Average Bill Impacts by Sector; Scenario

For BED, over the study period, average bills in Scenario 2 decrease relative to no efficiency by approximately 3.5% for residential customers, 5.5% for commercial non-demand customers, and slightly on average for commercial demand customers. Scenario 1, with lower energy efficiency budgets, would result in virtually no change in bills relative to Scenario 2, and Scenario 3 would see further reductions in average bills relative to base case. In recommending budgets for BED that are aligned most closely with Scenario 2, the Department strikes a reasonable balance between the immediate rate impacts and the long term bill impacts of efficiency.

Efficiency Vermont Budget Recommendation

The Department's 2015-2017 EEU budget recommendation for Efficiency Vermont Programs and VEIC compensation is summarized below.

VEIC EEU Budget 2015-2017

	2015	2016	2017	3-yr Total
Funded via EEC				
Electric Resource Acquisition	$39,351,359	$42,460,068	$45,555,423	$127,366,850
RA R&D	$1,377,298	$1,804,553	$1,822,217	$5,004,067
Non-Resource Acquisition	$4,217,048	$4,177,272	$4,260,432	$12,654,752
Operations Fee and QPI Award (4.1%)	$1,842,774	$1,986,118	$2,117,161	$5,946,052
EEC-Funded Subtotal	$46,788,478	$50,428,011	$53,755,233	$150,971,722
Funded via FCM and RGGI				
Heating-and-Process-Fuel Resource Acquisition	$5,349,342	$5,856,090	$6,256,375	$17,461,807
Non-Resource Acquisition	$575,052	$569,628	$580,968	$1,725,648
Operations and QPI Fees (4.1%)	$242,900	$263,454	$280,331	$786,686
FCM and RGGI-Funded Subtotal	$6,167,294	$6,689,173	$7,117,674	$19,974,140
			VEIC 2015-2017 EEC & TEPF Total	**$170,945,862**

Exhibit 6 – Department of Public Service Recommended Budgets for Efficiency Vermont programs and VEIC

Electric Resource Acquisition

For EVT/VEIC, the Department recommends electric resource acquisition budgets for 2015, 2016 and 2017 of $39.3M, $42.4M, and $45.5M. The pace of increase on average over the 2015-2017 period is approximately 8% per year which is generally consistent with the annual average increase during the current 2012-2014 period. The estimated savings in the table below are based on yields included in VEIC's April 8, 2014 updated model results. Specifically, the savings estimates below use commercial and residential yields combined with an adjustment that removes the effect of behavioral savings estimated by VEIC. The Department's calculations can be found on the tab titled *"VEIC Est RA Yields"* in the attached Excel document titled *" 2015-2017 PSD DRP Recommendation"*.

Annual VEIC Budgets (nominal) and Modeled Savings				
	RA Budget	MWh	Summer MW	Winter MW
2015	$40,728,656	90,528	14.2	14.6
2016	$44,264,621	91,974	14.0	14.6
2017	$47,377,640	92,298	13.4	14.3
2018	$48,034,051	89,284	13.2	15.2
2019	$49,645,840	92,232	13.5	15.5
2020	$51,279,154	81,129	11.7	11.7
2021	$52,828,643	76,141	11.1	11.1
2022	$54,549,928	74,219	10.7	10.3
2023	$56,254,913	72,126	10.0	9.6
2024	$58,069,805	73,637	10.0	9.5
2025	$59,920,919	73,449	9.7	9.1
2026	$61,707,337	73,485	9.4	8.9
2027	$63,157,477	72,286	9.1	8.6
2028	$65,086,641	70,396	8.6	8.3
2029	$66,982,240	71,062	8.6	8.2
2030	$69,058,751	70,667	8.3	8.0
2031	$71,418,979	70,319	8.1	7.8
2032	$72,426,971	69,780	8.0	7.7
2033	$74,198,237	68,050	7.7	7.5
2034	$75,969,503	68,307	7.6	7.5

Exhibit 7 – PSD Recommended Annual Electric Resource Acquisition Budget and Modeled Savings for VEIC

Exhibit 8 below shows how the estimated savings for EVT contrasts with the results of the Department's updated Potential Study, represented by the maximum achievable savings as a percent of sales. As described in the Potential Study report filed in this proceeding on April 10, 2014, forecasted electricity sales are reflected starting in 2015 with no previous impact from DSM. Beginning in 2016 the load forecast used in the study reflects the ongoing impact of energy efficiency that is expected to be achieved. The result is an "adjusted forecast" which over time accounts for the actual acquisition of savings.

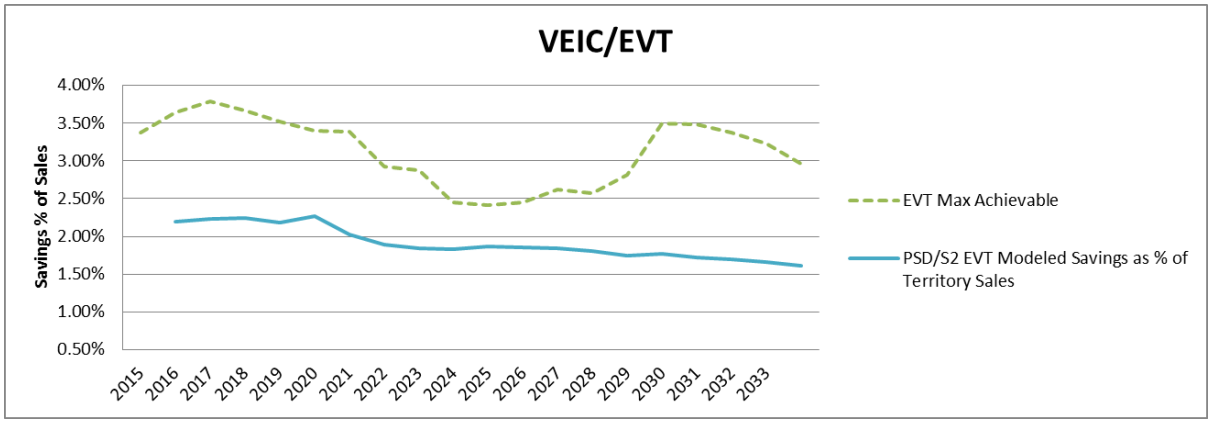

Exhibit 8 – Estimated Savings from PSD Recommended Budget Relative to Maximum Achievable Potential

As discussed in the Department's updated Potential Study, available retrofit measures over time have been moved to the near term, as they represent actually available potential electricity savings. This creates the estimated decline in maximum achievable potential seen in years 2017 through 2024, until the equipment stock (mostly in commercial buildings) reach a point later in its useful life when the efficiency potential increases again over the remainder of the study period, primarily in years 2028 through 2031. While it appears that a significant amount of potential is available in the next five years, the Department's recommendation results in a more gradual achievement of energy efficiency savings over a longer period of time. This recommendation is intended to strike a reasonable balance between rate and bill impacts, as described above, and the continued gradual expansion of cost-effective efficiency programs.

Electric Resource Acquisition – Research and Development
Rapid innovation in the strategies and means of acquiring electric energy efficiency resources is a constant. Research and development (R&D) activities by an EEU are therefore to be encouraged and supported. Vermont's large scale deployment of smart meters and the resulting increase in the volume and granularity of usage data provides a panoply of opportunities for innovation.

Thus the Department recommends that the EEUs pursue pilots and other R&D activity with the goal of identifying ways to best actualize the value of the state's smart grid investments and higher-resolution meter data, informed by behavioral science, to deliver highly cost-effective savings from energy efficiency and conservation. The Department further recommends the pilots and R&D be focused on ways to use the digital meter data to better understand energy demand and services. In particular, with the intent to improve the targeted marketing of programs aimed at the installation of equipment measures and control technologies – referred to as "uplift." The measures, similar to those offered today, will be verifiable, identifiable, and have measure lives of multiple years. Behavioral science innovations (including the use of comparisons), innovative data presentations in direct mail, mobile apps, etc., could form a basis for these efforts to produce uplift in efficient equipment or controls installations. The Department also recognizes that new measures and initiatives, informed by meter data and behavioral science, may produce savings through conservation, beyond and distinguished from that created through uplift in equipment measures. The Department is interested in exploring the successful delivery of savings through a diversity of new measures and initiatives enabled by the state's smart grid infrastructure.

The Department recommends the following parameters for this activity:

1. The funding for this R&D activity is allocated to the RA budgets, given that these are activities intended to deliver savings. The Department has not included estimates of the savings to be achieved during the course of these R&D activities, as they are by definition uncertain. This contributes to our conclusion that the savings estimated in this filing is conservative.
2. The initiatives be subject to the same (or even greater, as discussed below) evaluation and verification scrutiny than other resource acquisition activities.
3. Savings acquired through these activities be tracked but not be counted toward the EEUs' performance targets.

4. The QPIs should be set based on programs focused on equipment installation, and neither savings from RA R&D programs nor other "behavioral" savings should be counted toward achievement of those targets or subject to performance award compensation[9].
5. Success for these programs should be measured by their experimental outcomes and their accurate answers to identified research questions, rather than being limited to achieved savings.

To that end, the Department proposes a robust R&D partnership between the EEUs, our evaluation program, and Distribution Utilities, to the extent appropriate (e.g. regarding smart-grid enabled rate designs or demand response), which will allow joint investigation of program design and implementation for maximized future savings and cost-effectiveness. This will require a more complete research plan than the Department has seen to date from the EEUs, and the Department looks forward to working with them to produce that plan. Departmental evaluation oversight would be focused on joint understanding of verified savings achieved, but also evaluation of the EEUs' performance against the research plan.

The Department recommends the research plan to be subject to Board approval while recognizing that research details will likely change as early results indicate more or less fruitful directions for inquiry. The Department expects to partner with both third party evaluators and Lawrence Berkeley National Laboratory for assistance. Please see the Department's evaluation proposal for more details regarding the implications of this proposal for the Department's evaluation budget.

The Department supports EVT's proposed expenditure for RA funded R&D/pilots regarding energy conservation initiatives, including to the latter portion of the 2014-15 Opower pilot, during the 2015-2017 performance period. The Department understands that there are numerous open questions regarding the energy savings accomplished through measures such as the Opower Home Energy Reports (HERs). Among these questions are:

- How to accurately quantify and attribute savings between pure behavior/conservation actions by HER recipients and equipment installation made by these recipients, to avoid double-counting with other programs. A particular challenge here is how to attribute savings associated with recipient participation in upstream programs.
- What efficient equipment or equipment usage patterns are Vermonters actually changing in response to the HER reports? Smart meter data in and of itself gives us the potential to identify thermostat changes, daytime or nighttime setback adoption, some efficient product purchases, and plug load changes.
- Whether and to what extent engaging customers on their electric energy use can be shown to result in conservation savings in other fuels.
- How persistent are the behavior/conservation savings? That is, can the lifetime of this measure be extended beyond the period of direct treatment? This includes analysis of whether a new baseline can be established such that the communication frequency, content and/or mode can be cost-effectively altered. Beginning with an R&D approach to these measures gives Vermont the potential to design an experimental structure regarding

[9] This will align program implementers' incentives with the public interest in better characterizing, understanding, and optimizing the programs that result from this R&D, rather than allowing performance compensation to risk coloring the design of experiments or interpretation of their results.

the duration, content, and/or frequency of treatment, which can address questions of persistence over multiple years. This plan may extend well beyond the next three years.
- What is the optimal timing and spacing of mailings to the treatment group? Given that mail cost is a significant driver of this initiative, if similar savings can be achieved with fewer mailings, cost-effectiveness could be markedly improved. This could also include investigation of whether recipients become desensitized to the HER message, including any dependence on its frequency of delivery.
- What messages are most effective at driving uplift of equipment programs? Note that these may be different from the messages most effective at changing conservation behavior.

A similar set of research questions could be developed for commercial and industrial smart grid-enabled R&D programs, focused on efficient equipment, controls, and behavior.

Vermont's pervasive smart meter technology, if coupled with high quality experimental design, has the potential to help answer some of these questions for Vermont's circumstances. This could lead to both correct identification and assignment of savings between efficient equipment and energy conservation initiatives, and to greater cost-effectiveness. The Department understands that answering some of these questions may require greater expenditure upfront (e.g. may need larger treatment and control groups to allow for segmented treatments) but believes that the additional information is essential for the design of cost-effective future programs and would be critical information to have at hand to accurately account and plan for these programs in the future.

As part of the research plan, the Department proposes milestones be established that conclude with a Board workshop process near the end of 2016 in order to discuss the performance to that date of the EEUs' energy conservation R&D programs. Should some of the EEUs' energy conservation R&D programs yield verified, cost-effective savings and show promise for continuation, the results presented through this process could form the basis for an agreement to bring the 2017 implementation of these measures, and associated funding, out of the RA energy conservation R&D program and into the main RA residential and/or C&I programs, while amending the EEUs' QPIs to account for their addition. The workshop process could also serve as a capstone for determining what pilots and R&D are worth continuing, expanding, and/or ceasing. Necessarily, this culmination of research, workshop process, and subsequent planning decisions would be timed to coordinate with the DRP scenario modeling for the 2018-2020 performance period and would allow the informed consideration of the role of new measures for that period.

The Department's proposed RA R&D budget for EVT, totaling just over $5 million, is identified separately in our budget recommendation, and is in addition to the identified RA budget shown on the previous line in Exhibit 6. The Department recognizes that the proposed plan for this funding category is new, and expects fruitful dialogue around this proposal in reply comments and the upcoming workshops, and we look forward to working with the Board, other parties, and stakeholders, to better define and refine this proposal.

Thermal Energy and Process Fuels – Resource Acquisition

On January 10, 2014 in this proceeding the Department filed a TEPF 10 year forecast of estimated revenue from the Vermont's participation in ISO-New England's Forward Capacity

Market ("FCM") and Regional Greenhouse Gas Initiative ("RGGI"). The Department recommends the following 2015-2017 TEPF budget and estimated savings for VEIC.

VEIC TEPF Budget and Modeled Savings		
	RA Budget	MMBtu
2015	$5,349,342	63,908
2016	$5,856,090	76,986
2017	$6,256,375	81,459
2018	$6,625,318	84,773
2019	$7,192,044	90,426
2020	$7,500,683	92,817
2021	$7,707,212	94,531
2022	$8,049,298	97,906
2023	$8,037,072	97,259
2024	$8,615,968	103,794

Exhibit 9 – VEIC TEPF Budgets and Modeled Savings

The Department and VEIC held numerous discussions regarding TEPF programs and yields. It was a productive process. As a result of this communication, the Department supports VEIC's TEPF narrative description and the associated expected MMBtu savings output from VEIC's scalable TEPF model[10]. However, the Department's recommended TEPF resource acquisition budgets and associated expected MMBtu savings are likely to be different from those proposed by VEIC. This is due to the assumption that the total amount of TEPF funding is fixed. Consequently, differences in recommended compensation rates and budgets will have a modest, yet material, impact on available TEPF resource acquisition dollars and associated expected MMBtu savings.

Non-resource Acquisition

The Department supports VEIC's recommended NRA budget of $14,380,400 for years 2015-2017, to be split appropriately between EEC and TEPF funding sources, based on the ratio of the total budgeted EEC and TEPF resource acquisition budgets.

The Department conducted significant and detailed consultations with VEIC regarding non-resource acquisition activities and associated budgets. Multiple discussions with individual NRA budget managers at VEIC enabled the Department to understand where VEIC draws the line when defining costs associated with resource acquisition and non-resource acquisition activities. As a result the Department supports VEIC's proposed NRA activities and the associated budget. A close examination of VEIC's cost allocation process demonstrated that these decisions were appropriately guided by the NRA principals included below that VEIC filed in the inaugural DRP[11].

> *"…one characteristic of NRA activity is that the expenses incurred in implementing the activity do not result in quantifiable energy savings and are not counted as credit towards an EEU's Quantifiable Performance Indicators. Other NRA characteristics*

[10] Found on tab titled "*VEIC TEPF*" in the attached Excel document titled "*2013_14 DPS DRP Recommendation*".
[11] VEIC filing of February 3, 2011 in EEU-2010-06.

include an identifiable distinction between NRA and resource acquisition in the costs related to defining the scope of work, deliverables, and associated activity.

The advantages of a separate NRA budget mechanism, at a minimum, include the following:
1. Removal of the disincentive to adequately fund non-resource activities created by the previous "all-inclusive" contract budget methodology, coupled with a performance contract;
2. Provision for budgeting and tracking eligible services and initiatives specifically designated in the Order of Appointment and Process and Administration document, such as the preparation of a Demand Resource Plan and the participation in a Demand Resource Plan Proceeding,
3. Provision for regular monitoring and tracking of spending on Board-approved non-resource acquisition activities; and
4. Greater clarity in determining resource activity yields (for example, MWh saved per $10,000 invested) by removing non-resource acquisition costs."

As filed by VEIC, the Department encouraged and supports the inclusion of "Possible Outcomes" for NRA activities. Documentation of the possible NRA outcomes improves transparency and accountability associated with the NRA investment and establishes an estimated baseline from which to evaluate progress against over the 2015-2017 period.

The Department notes that NRA budgets in the inaugural DRP were created from the "ground-up" and include numerous assumptions regarding NRA tasks and budgets. 2015-2017 NRA budgets, in contrast, were estimated based on actual 2012 and 2013 spending in each NRA sub-category (which at times was more or less than initially budgeted) as well as estimates for costs associated with expected additional NRA activity. The Department understands one of the reasons the 2015-2017 NRA budget is greater than in 2012-2014 is due to new information technology investments that will be required to store, access, analyze, and secure consumer data from digital meters.

VEIC Compensation

The Department recommends VEIC's compensation be held at a level consistent with the current rate. Specifically, that VEIC's compensation rate be equivalent to 4.1% of the 2015-2017 total Board approved resource and non-resource acquisition budgets. The specific rate and budget associated with the Department's overall recommendation for the 2015-2017 period is shown in the table below.

VEIC Compensation Budget 2015-2017

	2015	2016	2017	3-yr Total
Funded via EEC				
Operations Fee and QPI Award (4.1%)	$1,842,774	$1,986,118	$2,117,161	$5,946,052
Funded via FCM and RGGI				
Operations Fee and QPI Award (4.1%)	$242,900	$263,454	$280,331	$786,686
			VEIC 2015-2017 EEC & TEPF Total	**$6,732,738**

Exhibit 10 – PSD Recommended VEIC Compensation Budget

In making our compensation recommendation the Department has reviewed not only the compensation structures of entities providing comparable services, but also the level of operational and financial risk associated with VEIC's delivery of services in Vermont, as well as whether the current rate of compensation is adequately motivating VEIC's performance relative to achieving savings goals.

Compensation to VEIC is meant to ensure organizational cash flow and viability through guaranteed margin on cost (Operations Fee) and also serve as a motivational tool to encourage achievement of performance goals (Performance Award). On behalf of the ratepayers, the Department is mindful of its obligation to review the relationship between compensation and progress towards performance targets including verified savings. It is important to state that VEIC has seldom lagged in progress towards achieving performance goals and, upon becoming Vermont's energy efficiency provider in 2000, VEIC has met nearly all of its expected MWh, MW, and TRB performance targets (and earned nearly all of the available performance awards). The Department finds the linkage between compensation and achieving performance targets to be strong.

Thus our review finds that the current rate of compensation is appropriate and sufficient to accomplish the stated performance goals. As noted above, the Department recommends the current rate of compensation to be held constant at 4.1% for the 2015-2017 period. The Department's recommended increase in overall budgets for EVT will result in a corresponding increase in the total compensation paid to VEIC. The Department recommends this level of compensation because it appears to effectively balance VEIC's motivation to achieve goals with an appropriate level of public investment.

VEIC has performed well relative to its targets. However it does not necessarily follow that an increase in the compensation *rate* is warranted. Indeed, because compensation is established as a percent of total budget, if the Board adopts the Department's budget recommendation the available total EEC and TEPF compensation for VEIC in the 2015-2017 period will be approximately $1.1M more than in the current 2012-2014 period. The Department views this increase in available compensation for the 2015-2017 period to be appropriate. This is a significant increase in the total compensation that could be earned by VEIC, reflecting their sustained success in meeting performance targets. Furthermore, the Department is confident that this level of total possible compensation will continue to encourage VEIC to meet its targets, while remaining mindful that every dollar spent on compensation is a dollar that cannot be used to pursue an energy efficiency measure.

Finally, it should be noted that the Department considers its compensation recommendation to be specific to its total DRP budget recommendation. In other words, if the Board were to adopt a significantly higher or lower budget than that proposed herein by the Department, our compensation recommendation could change. Further, the Department does not make a recommendation at this time as to the amount of compensation that should be tied to VEIC's performance award relative to the amount that VEIC earns as an operations fee. That designation may be best determined when considering Quantifiable Performance Indicators (QPIs) as the risk associated with reaching the set of QPI targets could (but need not necessarily) be tied to the level of compensation that is more "fixed" in the VEIC compensation package.

Burlington Electric Department

The Department's 2015-2017 EEU budget recommendation for BED is summarized below. The Department and BED agree this recommendation provides BED with adequate resources to "*realize all reasonably available, cost-effective energy efficiency savings"* at a reasonable pace in BED territory as required by Vermont statute.

BED EEU Budget 2015-2017

	2015	2016	2017	3-yr Total
Funded via EEC				
Electric Resource Acquisition	$2,337,666	$2,513,980	$2,696,148	$7,547,794
RA R&D	$81,818	$106,844	$107,846	$296,508
Non-Resource Acquisition	$230,076	$234,700	$239,300	$704,076
EEC-Funded Subtotal	$2,649,560	$2,855,524	$3,043,294	$8,548,378
Funded via FCM and RGGI				
Heating-and-Process-Fuel Resource Acquisition	$96,390	$98,318	$100,284	$294,992
Non-Resource Acquisition	$10,700	$11,000	$11,200	$32,900
FCM and RGGI-Funded Subtotal	$107,090	$109,318	$111,484	$327,892
			BED 2015-2017 EEC & TEPF Total	**$8,876,270**

Exhibit 11 – PSD recommended BED EEU Budget 2015-2017

Electric Resource Acquisition

The Department's budget recommendation for BED is based on BED's modeling of Scenario 2 and is an extension of the resource acquisition budgets ordered by the Board in the inaugural DRP.

For BED, the Department recommends electric resource acquisition budgets for 2015, 2016 and 2017 of $2.3M, $2.5M, and $2.6M. The pace of increase is approximately 9% per year in this three year time frame which is generally consistent with the annual average increase during the current 2012-2014 period.

Electric Resource Acquisition – Research and Development

The Department notes that it has recommended $296,508 in RA R&D funds for BED. Similar to EVT, this represents approximately 4% of BED's RA budget dedicated to pilots and R&D that leverage the use of smart grid data. Through conversations with BED, the Department understands BED may be interested in piloting smart gird R&D initiatives with possible savings starting in 2015. However, the Department and BED did not reach a definitive conclusion on if and how to optimize such an investment. Consistent with the proposal in the *Electric Resource Acquisition – Research and Development* section for VEIC above, the Department looks forward to exploring this concept further as it relates to BED in the upcoming performance period.

Annual BED Budgets (nominal) and Modeled Savings				
	RA Budget	MWh	Summer KW	Winter KW
2015	$2,419,484	6,769	972	1002
2016	$2,620,824	6,777	972	1004
2017	$2,803,994	6,784	969	1005
2018	$2,780,382	6,513	923	964
2019	$2,868,773	5,841	826	865
2020	$2,966,063	6,227	837	922
2021	$3,056,968	6,178	826	915
2022	$3,149,249	5,488	660	813
2023	$3,243,315	5,686	753	842
2024	$3,349,072	5,340	738	791
2025	$3,453,508	5,076	649	752
2026	$3,568,530	5,039	643	746
2027	$3,648,111	4,801	628	711
2028	$3,764,671	5,035	625	746
2029	$3,881,651	4,981	622	738
2030	$4,004,169	4,655	482	689
2031	$4,149,095	4,566	478	676
2032	$4,273,568	4,548	475	673
2033	$4,401,775	4,337	461	642
2034	$4,533,828	4,383	459	641

Exhibit 11 – PSD Recommended Annual BED Budgets and Modeled Savings

As reported in the Department's Potential Study, the maximum achievable energy efficiency potential for BED in its service territory is somewhat less, proportionally, than the amount available in the balance of the state. Probable reasons for this include the maturity of BED's energy efficiency program, limited opportunities in the Residential New Construction market, and the barriers to accessing the Residential Existing Facilities market. Under BED's modeling of Scenario 2, savings decline over time because of constrained budgets and increasing costs of energy saved.

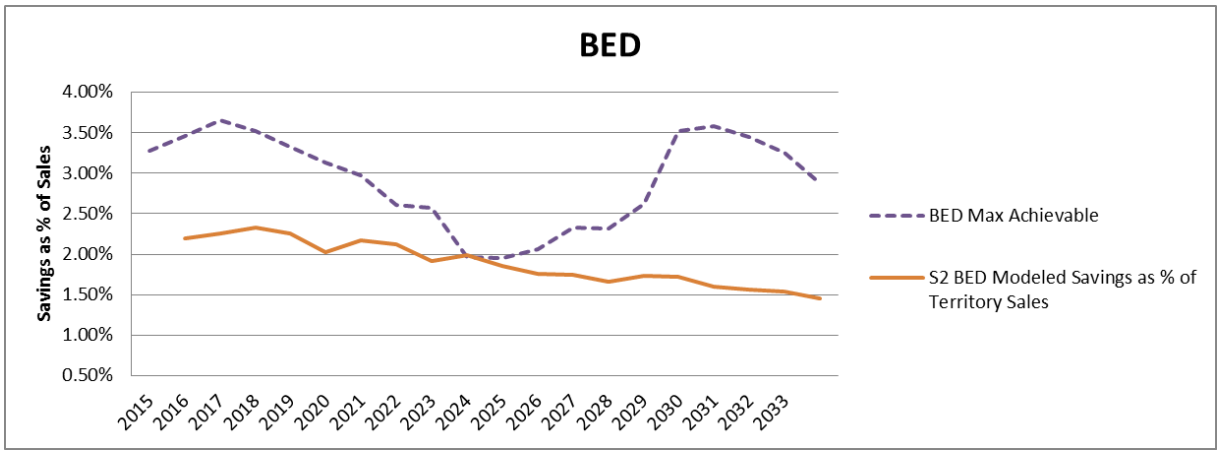

Exhibit 12 - Estimated Savings from PSD Recommended Budget Relative to Maximum Achievable Potential

While it appears from the study that a significant amount of potential is available in the next five years, the Department's recommendation results in a more gradual acquisition of energy efficiency savings over time. This is consistent with striking a reasonable balance between rate and bill impacts, as described above, and the continued expansion of cost-effective efficiency programs.

Thermal Energy and Process Fuels – Resource Acquisition

On January 10, 2014 in this proceeding the Department filed a TEPF 10 year forecast of estimated revenue from the Vermont's participation in ISO-New England's Forward Capacity Market ("FCM") and the Regional Greenhouse Gas Initiative ("RGGI"). The Department recommends the following 2015-2017 TEPF budget and estimated savings for BED.

BED TEPF Budget and Modeled Savings		
	RA Budget	MMBtu
2015	$96,390	542
2016	$98,318	486
2017	$100,284	442
2018	$102,290	411
2019	$104,336	417
2020	$106,422	411
2021	$108,551	417
2022	$110,722	411
2023	$112,936	417
2024	$115,195	411

Exhibit 13 – BED TEPF Budgets and Modeled Savings

The Department consulted with BED about TEPF programs and yields. The Department appreciates the iterative process and productive discussions with BED related to developing the TEPF proposal. As a result of that consultation, the Department supports the expected MMBtu savings output from BED's scalable TEPF model[12].

Non-resource Acquisition

The Department supports BED's recommended NRA budget of $736,976 for years 2015-2017, to be split appropriately between EEC and TEPF funding sources.

The Department encouraged and supports the inclusion of "Possible Outcomes" for NRA activities. Documentation of the possible NRA outcomes improves transparency and accountability associated with the NRA investment. For example, the NRA outcomes will establish an estimated baseline from which to evaluate progress against over the 2015-2017 period.

[12] Found on tab titled "*BED TEPF RA*" in the attached Excel document titled "*2015-2017 PSD DRP Recommendation*".

DPS Evaluation Plan and Budget

Vermont law requires that the Board "[p]rovide for the independent evaluation of programs delivered" by an EEU funded through an Energy Efficiency Charge. 30 V.S.A. § 209(f)(10). The Department has been identified as the entity to carry out this function since the EEU's inception. The goal of the evaluation proposed in this plan is to provide ratepayers and the Board with an independent evaluation of EEU programs, subject to the Board's direction pursuant the Order of Appointments and in fulfillment of the statutory obligations cited above.

In addition to the key task of verifying the direct impacts of the EEU's activities, the implementation of this plan should enable the Department, the Board, and various stakeholders to improve and update their understanding of Vermont's dynamic energy efficiency markets, and continue to advance Vermont's ability to capture energy efficiency savings. Toward those ends, this plan has the following overall objectives:

1. Verify the annual savings claims made by EEUs relative to performance targets, including but not limited to annual electric energy and coincident peak capacity savings, total resource benefit (TRB), and MMBtu;
2. Provide evaluation activities necessary to meet the requirements of participation in the FCM;
3. Perform evaluation activities necessary to evaluate "geotargeting" efforts, to the extent that the initiative continues;
4. Perform evaluation of select "Non-Resource Acquisition" activities as needed;
5. Conduct market studies to characterize and assess current conditions in discrete energy efficiency markets identified in prior evaluation studies and reports, and in any new markets as may be identified by stakeholders;
6. Benchmark the scope and results of Vermont energy efficiency portfolios and initiatives relative to other programs in the nation;
7. Support the development and understanding of changing baselines and measure characterizations through participation in the Technical Advisory Group, including measures or initiatives where significant uncertainty exists and/or where the potential savings contribution is large, such as behavioral modification initiatives;
8. Maximize the value of evaluation expenditures by retaining in-house resources and partnering with other New England evaluation efforts where possible and appropriate.

For the 2015-2017 performance period, the Department proposes an EEC-funded evaluation budget of $3,958,200, a TEPF-funded evaluation budget of $439,000, and a FCM-funded evaluation budget of $1,882,000. The EEC budget has increased relative to the 2012-2014 due to increasing evaluation contractor costs; the addition of a more robust plan to evaluate and verify R&D initiatives related to behavior and other smart grid R&D programs; and the inclusion of evaluation plans associated with the EEUs' Overall Performance Assessment, as required by the Board.

On the TEPF side, a new activity for the 2015-2017 period is a proposed potential study for TEPF (unregulated fuels). While the 2015-2017 budget is higher, the Department expects it will have some evaluation funds to carryover from the 2012-2014 period into the 2015-2017 period. The Department currently estimates its evaluation budget carryover request in early 2015 will be

at least $1.3M in EEC funds and we anticipate that those funds would be used for evaluation studies completed in 2015. Should the Board approve the Department's recommended EEU evaluation plan and total evaluation budget contained herein, it may be appropriate to adjust EEC collections associated with DPS evaluation costs in 2015. Anticipating this probable carryover has potential to limit EEC over-collections in the 2015-2017 period.

The Department's proposed EEU evaluation initiatives for the 2015-2017 performance period are similar to past evaluation activities, incorporate a variety of funding sources, and include a diverse mix of evaluation activities. The plan's goals will be met through an array of evaluation techniques, including impact assessments, market characterizations and assessments, process evaluations, and research. The Department proposes the following evaluation initiatives:

Core Energy Efficiency Charge Evaluation Activities
Annual Savings Verification
Geotargeting
Technical Advisory Group and Technical Reference Manual Review
Market Characterizations & Assessments
Benchmarking of Vermont Energy Efficiency Efforts
Supporting Energy Efficiency Charge Evaluation Activities
Non-Resource Acquisition Initiatives
Administrative Efficiency
Home Performance with Energy Star & Building Performance Evaluation
Energy Savings Accounts & Customer Credit Program
Regional Evaluation Coordination
Behavioral and Smart Grid R&D Evaluation Activities
Contingency Evaluation Funds
Thermal Energy and Process Fuels Initiatives Evaluation Activities
Home Performance with Energy Star & Building Performance Evaluation
TEPF Contingency
Potential Study
Forward Capacity Market Evaluation
Planning and Management & Other Evaluation Activities
Evaluation Planning & Administration
Expert Technical Assistance
DPS Demand Resources Plan Related Costs
Other Direct Costs
Community Energy Efficiency Development (CEED) Fund Evaluation & Verification
Self-Managed Energy Efficiency Program – SMEEP Participants
Energy Efficiency Potential Study
Overall Performance Assessment

Some activities will be carried out by selected independent contractors and others will be performed by Department staff which will not only reduce the proportion of contracted efforts relative to past evaluation cycles but continue to build the Department's expertise and in house evaluation management systems. As fully outlined in evaluation plan, the Department recommends retaining the full-time equivalent of two staff dedicated to EEU evaluation and oversight.

Specific evaluation plans and a description of the assumptions used to develop the budget have been filed electronically with this letter as files titled;

- *PSD 2015-2017 Energy Efficiency Evaluation Plan*
- *Attachment B PSD 2015-2017 Energy Efficiency Evaluation Budget*

Other Costs - EEU Fiscal Agent and EEU Fund Audit Budgets

The Department recommends the following budgets for the Fiscal Agent and EEU Fund Audit. Compared to the budgets approved in the inaugural DRP, and relative to the Department's overall EEU budget recommendation, the Fiscal Agent and EEU Fund Audit budgets have been adjusted upward by approximately 20% for the years 2015-2017 (then adjusted for inflation in remaining years). This budget level is intended to maintain current levels of Fiscal Agent and EEU Fund Audit activity and, if needed, could also accommodate additional scope or tasks that may be associated with an overall EEU budget increase.

EEC Budget 2015-2017

	2015	2016	2017	3-yr Total
Funded via EEC				
Fiscal Agent	$33,244	$33,244	$33,244	$99,731
Fiscal Agent Audit	$19,946	$19,946	$19,946	$59,839
	$53,190	$53,190	$53,190	**$159,570**

Exhibit 14 – PSD Recommended Fiscal Agent and Fiscal Agent Audit Budgets

Relevant Considerations

The Department's recommendation is mindful of both statutory requirements and pertinent portions of the Department's 2011 Vermont Comprehensive Energy Plan ("CEP").

Statutory Requirements

30 V.S.A. 209(d)(3)(B), which establishes a process for setting of the energy efficiency charge ("EEC"), includes consideration of the following elements when setting the amount of the EEC. The statute sets forth those elements as shown below and puts particular emphasis on the first four objectives.

> *[T]he EEC shall be adjusted as necessary in order to realize all reasonably available, cost-effective energy efficiency savings. In setting the amount of the charge and its allocation, the Board shall determine an appropriate balance among the following objectives; provided, however, that particular emphasis shall be accorded to the first four of these objectives*
>
> *i. reducing the size of future power purchases;*

ii. *reducing the generation of greenhouse gases;*
iii. *limiting the need to upgrade the State's transmission and distribution infrastructure;*
iv. *minimizing the costs of electricity;*
v. *providing efficiency and conservation as a part of a comprehensive resource supply strategy;*
vi. *providing the opportunity for all Vermonters to participate in efficiency and conservation programs;*
vii. *and the value of targeting efficiency and conservation efforts to locations, markets, or customers where they may provide the greatest value.*

The Department's proposed budgets achieve the four objectives upon which the legislature has placed particular emphasis in the following manner:

Reducing the size of future power purchases
The efficiency budgets that the Department recommends would reduce Vermont's annual electric energy demand by 2.25% by 2017, when compared to a no-efficiency case, and put the state on a path to a reduction of about 18% by 2029[13]. While the state's Distribution Utilities would, in large part, continue to have need for energy beyond that met by current contracted or owned resources and energy efficiency, the acquisition of efficiency resources as proposed herein would have a significant impact on reducing the size of future power purchases. The Department's emphasis on equipment measures with long measure lives is intended to directly address the need to reduce the size of future power purchases which are typically long-term agreements.

Reducing the generation of greenhouse gases
Because Vermont participates in the ISO-New England power market, Vermont's efficiency investments have an impact on the region's total need for energy, including peak loads. It is therefore appropriate to consider greenhouse gas (GHG) emissions avoided on the margin within the ISO-NE region. ISO-NE estimates this marginal generator emits 899 pounds of CO2 per MWh[14]. To the extent that Vermont's efficiency programs can impact peak loads more than average loads, this will result in additional emission reductions due to a decrease in the use of oil and other "peaking" units (which have relatively greater GHG emissions) that tend to run during peak load conditions.

In addition, capacity savings achieved by Efficiency Vermont and BED via electric efficiency investments generate revenues from the FCM that Vermont law requires to be used for heating-and-process-fuel programs. Vermont law also requires that net revenues from RGGI be used for heating-and-process-fuel efficiency programs. These programs, which directly reduce oil, propane, kerosene, and wood consumption in Vermont, also directly reduce the generation of greenhouse gases.

[13] For EVT found on tab titled "*BED EVT as % of Sales*" on row 57 in the attached Excel document titled "*2015-2017 PSD DRP Recommendation*".
[14] ISO-NE marginal emissions report, 2012 CO2 marginal emissions 899lb/MWh. http://www.iso-ne.com/genrtion_resrcs/reports/emission/2012_emissions_report_final_v2.pdf

Limiting the need to upgrade the State's transmission and distribution infrastructure
The funding of Geotargeted energy efficiency investments as an alternative to costly transmission and distribution upgrades has been decoupled from the DRP process. However, the base level of statewide investment in energy efficiency determined in the DRP helps limit the need for upgrades. Statewide load growth is forecast to be virtually flat after efficiency programs are taken into account. It is expected that there will remain areas of the state where load growth (including peak load growth) will continue to occur and lead to a need for transmission and distribution upgrades. It is these upgrades that robust energy efficiency programs can delay or avoid.

In addition, approximately $5 billion of transmission investment is planned for the New England region, on top of billions of dollars of other recent transmission investment already installed. Since Vermont pays a portion of those costs via the Regional Network Service Charge, which is based on its monthly peak demand, reducing Vermont's peak demand in both summer and winter can have a significant effect on the share of costs that Vermont ratepayers must pay. The Department expects to further advance this objective through increased emphasis on peak savings in our QPI proposals to be proposed later in this DRP process.

Minimizing the costs of electricity
Power costs are a significant component of Vermont electric utilities' total costs of providing service to their customers. Marginal energy and capacity needs, especially during peak times, are typically met through regional wholesale electricity market purchases, contributing disproportionately to power costs. Historically, market prices have been volatile, and increases in these costs have been one of the factors driving electric-utility rate increase requests. Energy efficiency that reduces peak load would therefore lower the locational marginal clearing price, thereby lowering the cost of electricity that is purchased from the market (and potentially lowering the cost of future power contracts that are indexed to the market). These benefits would stabilize and reduce power costs, and ultimately rates. Rate and bill impacts from investments in energy efficiency are discussed in the first section of the Department's recommendation.

Comprehensive Energy Plan

Further, in developing its recommendation, the Department has considered some of the goals included in the Department's 2011 Comprehensive Energy plan. The Department's budget recommendation balances many of the opportunities and challenges cited below associated with responsible investment in energy efficiency.

1. Use less energy and save more money *"For electric efficiency programs, in the short term [pursuit of] electric efficiency measures designed to achieve savings of up to 3% of the electric demand annually…[while balancing] efficiency efforts with year-to-year ratepayer costs and the capacity of our program infrastructure."*[15]

[15] 2011 Vermont Comprehensive Energy Plan Volume 1, page 5.
http://publicservice.vermont.gov/sites/psd/files/Pubs_Plans_Reports/State_Plans/Comp_Energy_Plan/2011/2011%20CEP_Volume%201%5B1%5D.pdf

2. Positive impacts of energy efficiency[16] including but not limited to;
    a. *"Deferring or avoiding local or regional distribution or transmission projects."*
    b. *"Reducing Vermont's shares of the Regional Network Service ("RNS") Charge."*
    c. *"Reducing the overall cost of purchased electricity."*
    d. *"Generating local jobs."*
    e. *"Reducing the carbon emissions from electricity generation."*
    f. *"Significantly reducing electric bills for customers who participate in programs."*
    g. *"Securing revenues from the ISO-NE Forward Capacity Market ("FCM") for the benefit of Vermont to be used for thermal efficiency investments."*
    h. *"Creating other, non-quantified benefits for participants."*

3. Challenges to increasing electric efficiency[17] including but not limited to;
    a. Pace of investment -*"the pace at which Vermont acquires all reasonably available cost-effective energy efficiency [which] is limited by a responsible expansion pace of programs, along with the cost-effective potential itself. Further, the state must be responsible in setting incentive levels appropriately to encourage investment without overspending public resources to get the desired outcome."*

    b. Investigation of behavioral efficiency measures -*"explore new ways to integrate energy efficiency into supply-side resource assessments, including investigating behavioral efficiency measures, and those enabled by advanced metering [AMI] technology."*

    c. Reduce uncertainty and establish a track record of measuring and verifying energy savings associated with AMI data-*"Programs encouraging conservation and customer choices to reduce usage through AMI monitoring are on the rise nationally. However, uncertainty remains high regarding the methods and cost-effectiveness of obtaining measurable and persistent energy savings from these programs. The introduction of AMI technology will offer opportunities to test new energy efficiency strategies related to consumer conservation as a result of strategic energy management and consumer choice initiatives… An important objective going forward is establishing a successful track record of measuring and verifying energy savings associated with AMI."*

Based on the information provided with this filing and for the reasons cited herein the Department of Public Service respectfully requests that the Public Service Board adopt the proposed EEU Budget and Savings recommendation for Vermont Energy Investment

[16] 2011 Vermont Comprehensive Energy Plan Volume 2, page 53 and 54. http://publicservice.vermont.gov/sites/psd/files/Pubs_Plans_Reports/State_Plans/Comp_Energy_Plan/2011/2011%20CEP_Volume%202%5B1%5D.pdf

[17] 2011 Vermont Comprehensive Energy Plan Volume 2, page 58..

Corporation and Burlington Electric Department for the 2015-2017 performance period. Thank you for your consideration, and please do not hesitate to contact us with any questions.

For the Department of Public Service

/s/
Brian Cotterill
Energy Program Specialist

/s/
Jeanne Elias
Special Counsel

cc: EEU 2013-01 Service List (electronic service only)

Attachment A: PSD DRP Recommendation

Public Service Department EEU Program Budget Recommendation - April 16, 2014

	2015	2016	2017	3-yr Total	2018	2019	2020
Funded via EEC							
Electric Resource Acquisition							
Efficiency Vermont	$39,351,359	$42,460,068	$45,555,423	$127,366,850	$48,034,051	$49,645,840	$51,279,154
RA R&D	$1,377,298	$1,804,553	$1,822,217	$5,004,067			
BED	$2,337,666	$2,513,980	$2,696,148	$7,547,794	$2,780,382	$2,868,773	$2,966,063
RA R&D	$81,818	$106,844	$107,846	$296,508			
Customer Credit Program Participant	$989,400	$1,009,188	$1,029,372	$3,027,960	$1,049,959	$1,070,958	$1,092,378
Non-Resource Acquisition							
Efficiency Vermont	$4,217,048	$4,177,272	$4,260,432	$12,654,752	$4,154,568	$4,408,888	$4,496,888
BED	$230,076	$234,700	$239,300	$704,076	$227,500	$231,800	$236,200
Operations Fee and QPI Award	$1,842,774	$1,986,118	$2,117,161	$5,946,052			
DPS Evaluation	$1,319,400	$1,319,400	$1,319,400	$3,958,200	$2,023,777	$1,105,810	$884,928
Fiscal Agent	$33,244	$33,244	$33,244	$99,731	$35,905	$35,905	$35,905
Fiscal Agent Audit	$19,946	$19,946	$19,946	$59,839	$21,543	$21,543	$21,543
EEC-Funded Subtotal	$51,800,029	$55,665,313	$59,200,489	$166,665,830	$58,327,684	$59,389,517	$61,013,058
Funded via FCM and RGGI							
Heating-and-Process-Fuel Resource Acquisition							
Efficiency Vermont	$5,349,342	$5,856,090	$6,256,375	$17,461,807	$6,625,318	$7,192,044	$7,500,683
BED	$96,390	$98,318	$100,284	$294,992	$102,290	$104,336	$106,422
Non-Resource Acquisition							
Efficiency Vermont	$575,052	$569,628	$580,968	$1,725,648	$566,532	$601,212	$613,212
BED	$10,700	$11,000	$11,200	$32,900	$11,400	$11,600	$11,800
Operations Fee and QPI Award	$242,900	$263,454	$280,331	$786,686			
DPS Evaluation	$773,600	$773,600	$773,600	$2,320,800	$875,250	$828,554	$714,336
FCM and RGGI-Funded Subtotal	$7,047,984	$7,572,091	$8,002,758	$22,622,832	$8,180,790	$8,737,745	$8,946,453
Total 2015-2017 EEU Program Budget				**$189,288,662**	$66,508,474	$68,127,262	$69,959,512

2021	2022	2023	2024	2025	2026	2027	2028	2029
$52,828,643	$54,549,928	$56,254,913	$58,069,805	$59,920,919	$61,707,337	$63,157,477	$65,086,641	$66,982,240
$3,056,968	$3,149,249	$3,243,315	$3,349,072	$3,453,508	$3,568,530	$3,648,111	$3,764,671	$3,881,651
$1,114,225	$1,136,510	$1,159,240	$1,182,425	$1,206,073	$1,230,195	$1,254,798	$1,279,894	$1,305,492
$4,405,720	$4,668,488	$4,761,680	$4,672,184	$4,943,840	$5,042,576	$4,955,016	$5,235,824	$5,340,368
$240,800	$245,600	$250,400	$255,300	$260,300	$265,500	$270,700	$275,900	$281,200
$2,283,766	$1,145,670	$941,428	$2,387,540	$1,222,156	$970,279	$2,536,421	$1,259,832	$1,036,527
$35,905	$35,905	$35,905	$35,905	$35,905	$35,905	$35,905	$35,905	$35,905
$21,543	$21,543	$21,543	$21,543	$21,543	$21,543	$21,543	$21,543	$21,543
$63,987,570	$64,952,892	$66,668,424	$69,973,773	$71,064,244	$72,841,863	$75,879,971	$76,960,210	$78,884,927
$7,707,212	$8,049,298	$8,037,072	$8,615,968					
$108,551	$110,722	$112,936	$115,195					
$600,780	$636,612	$649,320	$637,116					
$12,000	$12,200	$12,400	$12,600					
$856,356	$788,817	$657,671	$870,905					
$9,284,899	$9,597,649	$9,469,400	$10,251,784					
$73,272,469	$74,550,541	$76,137,823	$80,225,557	$71,064,244	$72,841,863	$75,879,971	$76,960,210	$78,884,927

2030	2031	2032	2033	2034	Total
$69,058,751	$71,418,979	$72,426,971	$74,198,237	$75,969,503	$1,177,956,240
$4,004,169	$4,149,095	$4,273,568	$4,401,775	$4,533,828	$68,640,523
$1,331,602	$1,358,234	$1,385,399	$1,413,107	$1,441,369	$24,039,818
$5,255,008	$5,545,408	$5,656,200	$5,573,304	$5,873,824	$97,644,536
$286,500	$292,000	$297,600	$303,300	$309,100	$5,233,776
					$5,946,052
$2,661,916	$1,340,121	$1,061,684	$2,832,229	$1,391,375	$31,043,658
$35,905	$35,905	$35,905	$35,905	$35,905	$710,113
$21,543	$21,543	$21,543	$21,543	$21,543	$426,068
$82,655,394	$84,161,285	$85,158,869	$88,779,400	$89,576,446	**$1,416,941,360**
					$71,189,401
					$1,055,444
					$6,030,432
					$116,900
					$7,912,689
					$87,091,551
$82,655,394	$84,161,285	$85,158,869	$88,779,400	$89,576,446	**$1,504,032,911**