

INITIAL COMMENTS ON BUDGET AND SAVINGS RECOMMENDATIONS

EEU-2013-01

Demand Resources Plan Proceeding (2013-2014)

May 7, 2014

Electric Resource Acquisition Budgets and Savings

TEPF Resource Acquisition Budgets and Savings

Non-Resource Acquisition Budgets - Electric

Non-Resource Acquisition Budgets - TEPF

Non-Resource Acquisition Description - Electric

Non-Resource Acquisition Description - TEPF

EEU Compensation Rates and Budgets

Public Service Department Evaluation Plan and Budget

Initial Comments on Budgets and Savings

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GENERAL STATEMENT

The Vermont Energy Investment Corporation (VEIC) is grateful to the Vermont Public Service Board for providing the opportunity for the energy efficiency utilities (EEUs) and other stakeholders to respond to budget and savings recommendations submitted by all of the interested parties, as part of the Demand Resources Plan process for the 2015 – 2017 EEU performance period.

VEIC is grateful to the Vermont Public Service Department, the Burlington Electric Department, Associated Industries of Vermont, and the Conservation Law Foundation for their well-considered comments relating to the Demand Resources Plan. VEIC respects the advocacy of their positions in the context of this lengthy proceeding, and provides these initial comments in response to their statements about the energy efficiency utilities' budget and energy savings recommendations.

These initial comments address the components of the budget and savings recommendation documents requested by the Vermont Public Service Board, and are presented with headings that largely correspond to the outline in the EEU-2013-01 Third Adjusted Schedule for the April 16, 2014 filing, where relevant.

1. ELECTRIC RESOURCE ACQUISITION BUDGETS AND SAVINGS

VEIC continues to engage with the Department of Public Service in an effort to reach agreement on the electric resource acquisition budgets, and on the degree and manner that conservation measures can be incorporated in the Demand Resources Plan. One result of those discussions is that VEIC has decided to support, with a minor adjustment,¹ the Department's electric resource acquisition budget proposal. VEIC now recognizes that the Department's proposal strikes a reasonable balance among (1) Vermont's statutory energy efficiency requirements and associated comprehensive energy plans, (2) the EEU's ability to cost-effectively use the proposed increased level of electric energy efficiency resource initiative funding, and (3) Vermont ratepayers' willingness and abilities to increase efficiency funding and efficiency project participation.

1.1 Estimate of Energy Savings as a Percent Reduction of Sales

VEIC requests clarification on the Department's statement about energy savings as a percent reduction of sales:

¹ VEIC is proposing a different annual allocation than the Department's proposed annual 2015 – 2017 "RA R&D" budget allocations totaling \$5,004,067. VEIC expects to have that proposal fully developed for presentation at the May 14th Board workshop.

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 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. (pp. 1-2)

VEIC is not clear how the Department has calculated these EEU results. In the 2009-2011 performance period, Efficiency Vermont did not achieve its four key targets; MWh, Total Resource Benefits (TRB), Summer kW, and Winter kW. In addition, if the Department's assumption for 2009-2011 was that the 100% target was 10% higher than modeled savings, Efficiency Vermont missed three of the four key Quantifiable Performance Indicator (QPI) targets. **Table 1** summarizes the 2009-2011 performance results against modeled (90% of Target) values and 100% Target values.

Table 1. Efficiency Vermont performance results for 2009 - 2011

2009-2011 Results	Actual Result	Modeled Value (90% of Target)	% of Modeled	100% Target Value	% of 100% Target
MWh	292,406	327,000	89%	359,700	81%
TRB	\$279,359,840	\$284,970,000	98%	\$313,467,000	89%
Summer kW	42,692	46,545	92%	51,200	83%
Winter kW	53,454	49,091	109%	54,000	99%

Furthermore, VEIC has achieved neither modeled nor 100% targets in the 2012-2014 performance period, as shown in **Table 2**.

Table 2. Efficiency Vermont performance results to date, for 2012 – 2014

2012-2014 Results	Actual Result (through 3/31/14)	Modeled Value (90% of Target)	% of Modeled	100% Target Value	% of 100% Target
MWh	210,330	249,091	84%	274,000	77%
TRB	\$215,508,684	\$287,009,091	75%	\$315,710,000	68%
Summer kW	27,267	38,109	72%	41,920	65%

In addition, many factors affecting energy efficiency savings claims evolve over time. There are new technologies that often cost more than expected, making it harder to gain customer acceptance; there are also changes in codes, new federal standards, and other market-driven

baselines that can lower savings claims, changes in regulatory policy (for example, a change in QPI priorities to monthly demand or TRB, etc.) which can change the measure mix and the focus of programs. These all represent significant changes from current program characteristics, compared to expected future directions that will impact savings yields and program performance. Although the purpose of modeling is to anticipate these changes, modeling is only a set of assumptions for creating a forecast of the future. There is a fundamental statistical concept that using historical data to predict future trends is most accurate when the past and future are most alike. Consequently, VEIC questions whether the Department's analysis yields valid results.

1.2 Rate and Bill Impacts

VEIC very much appreciates Synapse's attempt to illustrate the relative magnitude of the different elements contributing to rate increases and rate decreases through its bottom-up approach. However, the complexity of this method makes it difficult to be sure that all of the calculations are correct. By comparison, a top-down approach, with its relative simplicity, is easier to follow and less prone to error. In the end, differences in revenue requirements will drive the change in customer bills. If revenue requirements decrease, this translates to lower bills.

Working from the same information on efficiency spending, MWh savings, and avoided costs that Synapse used in its analysis, VEIC has calculated the revenue requirement reductions for the Base and High efficiency scenarios (respectively, Scenario 2 and Scenario 3) in the total business sector (that is, demand and non-demand customers). Over the lifetime of the programs' energy savings, the total and net present value of revenue reductions are shown in **Table 3**.

Table 3. Comparison of Scenarios 2 and 3, in terms of revenue requirement reductions

Scenario	Sum Total Revenue Requirement Reductions	Net Present Value Revenue Requirement Reductions
Base Scenario	\$1,273,006,987	\$764,292,602
High Scenario	\$1,530,073,863	\$913,679,978
High vs. Base (High - Base)	\$257,066,876	\$149,387,375

The High Scenario will decrease the total revenue requirements by \$257 million more than the Base Scenario or \$149 million in present-value dollars. The business sector's overall bills will also be reduced by this amount. The participants will reap the benefits of lower bills, but how it is spread between demand and non-demand customers will be a function of which customers participate, and how the rates are changed for each rate class. The rate changes can be made so that the bills within the respective rate classes will go down overall within each rate class.

VEIC notes that Synapse's rate and bill analyses for business demand customers do not factor in the reduction in the demand charge in the customers' rates and bills.² The analysis is based entirely on a rate per kWh. Synapse has acknowledged this deficiency in its analysis,³ and cautions against relying on the results for the business demand customers. VEIC recommends disregarding the rate and bill analyses for the business demand customers because it has little to no utility.

The Synapse rate and bill analyses for the business sector use the same MWh savings for both the demand and non-demand analyses. The Base Scenario for all business customers shows several later years of cumulative savings that are higher than the savings in the High Scenario. This is probably because of the method that Synapse uses for calculating cumulative savings. Synapse first calculated the weighted average life by dividing lifetime savings by the incremental annual savings. They then estimated the cumulative savings by applying the weighted average lifetime to the incremental annual savings. It does not seem likely that a scenario with higher budgets would produce lower savings in any years. The result of this estimation methodology would be to overestimate the benefits of the Base Scenario relative to the High Scenario, and therefore also overestimate the bill reductions for the Base Scenario relative to the High Scenario.

1.3 Maximum Achievable Potential Study

VEIC has reviewed the *2013 Vermont Energy Efficiency Potential Study Update* (GDS Associates, March 2014) prepared for the Vermont Public Service Department.⁴

VEIC observes that GDS's maximum achievable potential represents 23.4% of forecasted sales in 2033, compared with VEIC's maximum achievable potential of 33.25% of forecasted sales in 2031. VEIC based its calculations on its 2011 study of the maximum achievable energy

² Tim Woolf, Erin Malone, and Jenn Kallay. "Rate and Bill Impacts of Vermont Energy Efficiency Programs—From Proposed Long-term Energy Efficiency Scenarios 2014 – 2034." Cambridge, Mass.: Synapse Energy Economics, 2014. Page 26: *It is also important to note that no adjustments were made to business demand customer's demand usage (in kW) as a result of efficiency savings, due to insufficient information about how much a typical customer's peak consumption would decline as a result of energy efficiency. This understates the business demand customers' bill savings, because many efficiency programs and measures will reduce peak demand usage. This is an important conservatism in our methodology that should be remembered when reviewing the bill impact results of the business demand customers.*

³ Synapse, "Rate and Bill Impacts," page 3: *Note that both the business demand and business non-demand bill impact results are approximations, due to the need to make several simplifying assumptions. The reasons for, and implications of, this are provided in Section 2. Consequently, these bill impact results should be used with caution.* And: Synapse, "Rate and Bill Impacts," page 46: *This slight increase in bills for demand customers in the High Case is probably due to several simplifying assumptions that were made in this analysis, and thus are probably not a good indication of the actual impacts on these customers. First, it was assumed that these customers would not experience reductions in their demand costs as a result of participating in efficiency programs, due to limited data. This could result in significantly understating the potential bill reductions for these customers. Second, we combine the efficiency savings assumptions for both business non-demand and demand customers, again due to limited data. This could also lead to understating the potential bill reductions for these customers, who are typically larger and more able to implement efficiency savings than smaller customers.*

⁴ GDS Associates, "2013 Vermont Energy Efficiency Potential Study Update: Final Report." Montpelier, Vt: Vermont Public Service Department. March 2014.

efficiency potential.⁵ This comparison is shown in **Table 4**. The Department's value represents a 30% decline in potential compared to VEIC's analysis, and represents approximately 560,000 MWh savings. The Department's filing does not address this decrease in potential.

Table 4. Comparison of two studies of Vermont energy efficiency potential, statewide

Study of Energy Efficiency Potential			
GDS Study - 2013		VEIC Study - 2011	
% Cumulative Savings of Projected 2033 Sales		% Cumulative Savings of Projected 2031 Sales	
Territory	Maximum Achievable Potential	Territory	Maximum Achievable Potential
Statewide	23.40%	Statewide	33.25%

VEIC believes it would be valuable for the Department to elaborate on the basis for the lower forecasted reduction in energy sales as forecasted in the 2013 GDS study.

1.4 Research and Development and Behavior

1.4.1 INTRODUCTION

VEIC is confident that behavioral energy efficiency will drive cost-effective energy reductions, and will meet the Public Service Department's desire for behavior measures that are verifiable, identifiable, and have measure lives of multiple years. It is VEIC's intention to offer programs from which behavior measures can be implemented and verified throughout the 2015-2017 performance period. VEIC is continuing to working with the Department to expand and improve all types of relevant energy efficiency options in Vermont.

VEIC's proposed energy efficiency portfolio incorporates behavioral approaches—essentially, a component of the energy conservation programs and measures subject to regulation, as cited in Vermont law—to provide energy savings that complement equipment measures and that are increasingly capable of interacting with them.⁶ VEIC believes that energy efficiency approaches based on behavioral science (for example, randomized controlled trials of new customer-interactive technologies and normative comparisons of such technologies) offer sufficient benefits to warrant their inclusion as a valid method for helping to meet the State's building energy goals contained in law.⁷

⁵ VEIC, Inc., "Maximum Economically Achievable Electricity Savings from Unconstrained Investment in Energy Efficiency 2012 – 2031", filed with the Vermont Public Service Board, January 20, 2011.

⁶ 30 V.S.A. § 209(d)(1).

⁷ 10 V.S.A. §581: (1) Improving the energy fitness of 25% of the state's housing stock by 2020 (approximately 80,000 housing units); (2) reducing annual fuel use and fuel bills by an average of 25% in the housing units served; (3) reducing total fossil fuel consumption across all buildings by an additional 0.5% each year, leading to a total reduction of 6% annually by 2017 and 10% annually by 2025; (4) saving Vermont families and businesses over \$1.4

As the Department highlighted, one particular residential behavior-based program being implemented by VEIC in 2014 is the Opower Home Energy Report (HER) program. A behavior-based program for the Commercial and Industrial (C&I) sector is also under way, the Vermont Continuous Energy Improvement (CEI) program. Similar initiatives are being implemented by the Energy Trust of Oregon, Bonneville Power Administration, and BC Hydro in Western Canada. These entities and Efficiency Vermont are adopting Superior Energy Performance protocols for moving C&I facilities toward CEI.⁸

In the following sections, VEIC has summarized the Department's comments, and refers readers to the corresponding page numbers (in parentheses) in the Department's April 16, 2014, filing, "EEU 2013-01 Public Service Department 2015-2017 Budget Recommendations."

1.4.2 ELECTRIC RESOURCE ACQUISITION – RESEARCH AND DEVELOPMENT

The Department's recommendations for research and development (R&D) essentially address three primary areas of concern:

- I. Actualizing the value of smart grid investments and high-resolution meter data, to inform equipment measure “uplift.”** This concern relates to pilots and other R&D activity that can identify ways to actualize the value of the State's investments in smart-grid technology and high-resolution meter data, in the context of behavioral science. Under this umbrella of activity, the Department seeks a better understanding of energy demand and services through digital meter data to inform the “uplift” of equipment installations (equipment measures and control technologies)
- II. R&D partnership to investigate program design and implementation for future savings and cost-effectiveness.** The Department identifies a complementary need for a “more complete research plan,” which it recommends should be subject to Board approval. The partnership, as envisioned by the Department, would involve the EEU's, the Department's evaluation program staff, distribution utility representatives, third-party evaluators, and staff from the Lawrence Berkeley National Laboratory.
- III. Energy conservation and the role of Opower's Home Energy Reports and other products in quantifying and attributing savings.** The Department provided six areas of concern within this overarching theme of applying high-quality experimental design to questions relating to the assignment of savings between efficient equipment and energy conservation initiatives.

billion on their fuel bills over the lifetimes of the improvements and measures installed; (5) increasing weatherization services to low-income Vermonters.

⁸ The growth in the literature on these protocols is significant, and contains discussions of the methods for verifying energy savings. See, for example, Paul Scheihing, Joe Almaguer, Pamela de los Reyes, and Tracy Fisher, “Superior Energy PerformanceSM: A Roadmap for Continual Improvement in Energy Efficiency.” In *Proceedings of the 2011 ACEEE Summer Study on Energy Efficiency in Industry, Vol. 1*. Washington, DC: American Council for an Energy-Efficient Economy, 165-174. <http://www.aceee.org/files/proceedings/2011/data/papers/0085-000008.pdf>.

Given the Department's many recommendations, its suggested parameters for R&D activity, and its framework for questions relating to residential energy savings achieved through R&D activity, VEIC has categorized its responses within each subsection, for easier reference. VEIC is sensitive to the collective length of this section, but feels this approach is necessary to be responsive to the Department's well-considered and pertinent positions.

I. Actualizing the value of smart grid investments and high-resolution meter data, to inform equipment measure “uplift”

Department recommendation: *...[T]he EEs 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. (p. 10)*

Department recommendation: *... [T]he 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.”*

Department recommendation: *The availability of more granular data from smart meters as well as from sub-meters and other data sources provides a rich opportunity to better analyze patterns and trends and to improve targeted marketing for both behavioral conservation programs and equipment measure and control technologies programs.*

VEIC agrees with the Department on the points it makes about the promising opportunities from these technologies and data. However, smart meter data, when paired with conservation and other behavioral options, can provide additional opportunities for customers, such as weekly energy updates or alerts about unusual energy use. It should be noted, too, that smart meter interval data are not required to run a behavioral efficiency program. That is, behavior should be defined as a component that exists both within and beyond technologies relating to the smart grid, other advanced metering, and controls.

A broader perspective. VEIC finds the Department's view on behavior-based energy efficiency programming to be valid, but narrower than that taken by VEIC. VEIC believes the following points also pertain:

- VEIC recognizes that smart meter interval data from Vermont's advanced metering infrastructure (AMI) distribution utilities (Green Mountain Power, Vermont Electric Cooperative, Washington Electric Cooperative, and Stowe Electric Department) offer opportunities for innovation because of the significant granularity of their data output. However, the Department's recommendation overlooks the needs of renters and low-income ratepayers. Particularly for this latter group, the energy burden is disproportionately high and most are not likely to have AMI equipment in their homes (other than those who participated in the Weatherization Innovation Pilot Program funded by the Recovery Act). They too can benefit from behavioral approaches that are



not dependent on smart meter data (discussed below). Further, VEIC notes that energy savings from behavioral approaches that do not involve AMI equipment and control technologies will be subject to measurement and verification.

- It is clear that VEIC and the Department are both very interested in research on the efficacy of behavioral science approaches to saving energy. Although the Department has indicated a cautious approach to exploring the body of relevant research, VEIC is familiar with a substantial amount of the large and growing scientific and technical literature, which includes evaluations of techniques, programs, and vendors. The Department supports Efficiency Vermont's proposed expenditures on a 2014-2015 pilot involving one of those data system vendors, Opower (see further discussion in **Subsection III**). VEIC notes that that company's residential behavioral conservation initiatives have been independently evaluated and accepted as a verified cost-effective efficiency resource in more than 30 states.⁹ More important, in the 2015-2017 performance period. Efficiency Vermont proposes using a randomized controlled trial (RCT) for the Opower HER program pilot to measure energy savings. This method is the primary one recommended by the U.S. Department of Energy (DOE) for behavior-based efficiency programs. DOE asserts that RCT offers "robust, unbiased program savings impact estimates, and a panel data analysis method, which will result in precise estimates."¹⁰
- The principal value of behavioral efficiency programs rests in their ability to deliver real and measurable reductions in energy use. However, the benefits of behavioral programs go beyond the energy savings. Behavioral energy efficiency also drives uplift in other energy efficiency programs. Research suggests that when behavioral programs are used to specifically feature other utility energy efficiency programs such as appliance rebate programs and home energy audits, participation in these programs can increase by up to 60%.¹¹

Behavioral energy efficiency is scalable and can effectively engage hard-to-reach residential customers such as renters or low-income communities. Behavioral energy efficiency programs also enable energy savings across all time periods and thus help to contribute to reducing peak demand, as well as overall capacity reduction. This ancillary benefit is in line with other goals the state has set to control capacity needs over time.

Resource acquisition vs. RA R&D

VEIC supports the Department's proposal to include a suite of residential and commercial savings based conservation activities in the proposed RA R&D category. New and unproven

⁹ Independent evaluations of the Opower HER programs: <http://opower.com/company/library/verification-reports>

¹⁰ State and Local Energy Efficiency Action Network, "Evaluation, Measurements, and Verification (EM&V) of Residential Behavior-Based Energy Efficiency Programs: Issues and Recommendations." Washington, DC: U.S. Department of Energy, 2012. http://www1.eere.energy.gov/seeaction/pdfs/emv_behaviorbased_eeprograms.pdf.

¹¹ Gunel, Arahan. "Analytics Insights: Behavioral programs enhance other utility energy efficiency initiatives." Opower. January 22, 2013. See: <http://blog.opower.com/2013/01/analytics-insights-behavioral-programs-enhance-other-utility-energy-efficiency-initiatives/>

methods for analytics or targeted marketing are proposed to be included in the NRA R&D Emerging Data Services category. That is, a distinction is being made between behavioral R&D initiatives (whether or not smart meter data is used) funded by resource acquisition budgets and data analytics initiatives (which could be funded by either resource or non-resource acquisition budgets, depending upon scope of the studies).

With regard to the parameters the Department has set forth, VEIC presents in **Table 5** a summary of the recommended parameters and VEIC's response. Supporting comments are found after the table.

Table 5. Selected recommended parameters from the Public Service Department, and VEIC's responses

Department Parameter	VEIC Comment
1. Funding is allocated to the RA budgets. Estimated RA savings through R&D are uncertain; the filing's estimated savings are conservative,	Agree on: - The allocation of R&D to the RA budget - Decision not to include R&D savings estimates in RA QPIs Further comment: Be clear in distinctions drawn between RA R&D and NRA Emerging Data Services budgets
2. R&D initiatives should be subject to evaluation and verification scrutiny at or above the same level as other RA activity	Agree on: Evaluation and verification of all measures and initiatives Disagree on: Degree of enhanced scrutiny on R&D initiatives Further comment: Savings verification is evolutionary and negotiated, and therefore greater scrutiny on measures for which a body of research already exists may not be warranted
3. Success measurement will relate to experimental outcomes and answers to research questions, in addition to achieved savings	Agree on: The need to set criteria for measuring success Disagree on: The implied co-equal treatment of achieved savings, outcomes of experiments, and answers to research questions Further comment: VEIC proposes a tiered structure of success—measured, in order of importance: (1) the programs' ability to achieve savings, and (2) their ability to offer additional, valid information and reliable research outcomes to the State.

Parameter 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. (p. 10)*

Agreement: VEIC agrees with the Department that R&D should be allocated to the RA budgets.

Additional comments: VEIC emphasizes the distinction between this new behavioral R&D category in RA and its proposed NRA Emerging Data Services budget.

Parameter 2. *The initiatives be subject to the same (or even greater, as discussed below) evaluation and verification scrutiny than other resource acquisition activities. (p. 10)*

Agreement: VEIC supports a rigorous evaluation and verification process for all Efficiency Vermont measures and initiatives. Strong EM&V processes support Vermont in achieving its energy efficiency goals.

Disagreement: However, VEIC questions the justification for subjecting R&D measures and initiatives to greater scrutiny than other activities. In particular, HER initiative energy savings have been verified as cost-effective in more than 30 states.

Additional comments: VEIC understands that behavioral and other R&D approaches are relatively new, and that corresponding EM&V methods are becoming better understood by third-party verification professionals. But VEIC also notes that no savings verification effort is failsafe at its outset, and every savings verification effort is subject to a level of professional judgment. Dismissing behavior measure comparisons between the Vermont EEU's and other New England jurisdictions because the use of a single appliance (air conditioners) or fuel options in the other states are different from what they are in Vermont does not, in VEIC's view, warrant a high degree of heightened scrutiny. Instead, well-informed saving estimates, similar to those made for other Vermont-specific energy efficiency measures, can be made. If the assumptions around those estimates prove to be incorrect, VEIC notes that they can evolve—just as savings verification methods and practices have evolved since 2000, when the first savings verification was conducted and negotiated on Efficiency Vermont's savings claims.

Vermont is fortunate that savings research on R&D work involving behavior initiatives has already been conducted for several years in its neighboring states and across the country. Because of this, a basic approach for measuring claimed residential R&D savings that involve behavior-based initiatives has evolved and is now generally accepted.

Parameter 3. *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.*

Agreement: VEIC believes that success should be measured and criteria established for success.

Disagreement: VEIC understands the Department's position, but suggests instead that the success criteria of behavioral programs should be tiered according to quantifiability. VEIC thus proposes success measured, in order of importance: (1) the programs' ability to achieve

verifiable savings, and (2) their ability to offer additional, valid information and reliable research outcomes to the State.

Additional comments: Ample evidence supports counting behavior energy efficiency savings toward State energy goals, even though the Department does not advocate counting such savings. VEIC recommends that if significant conservation savings are demonstrated, these should be included as a measure of success (whether part of a QPI goal or not). VEIC suggests that critical success factors involve criteria such as savings, cost-effectiveness, customer participation rates, customer satisfaction, and other agreed-upon research questions. VEIC recognizes that the Department and the EEUs will need to discuss success criteria further.

II. R&D partnership to investigate program design and implementation for future savings and cost-effectiveness.

Department recommendation: ... 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. (p. 11)

Partnership

VEIC agrees with the Department that an R&D partnership is warranted among the EEUs, the Department, distribution utilities, and other key stakeholders to address AMI and to take full advantage of opportunities in rate design and demand response, and their intersection with electric and thermal energy efficiency.

Behavioral science principles applied to energy use and conservation are blind to fuel sources. Therefore, VEIC advises that Vermont Gas Systems and unregulated fuel dealers should also be invited to join the partnership. Behavioral science approaches to saving natural gas are common throughout the United States. As Vermont moves forward with an EEU approach to natural gas efficiency, the Department should encourage the natural gas utility to participate in discussions of behavioral efficiency measures. Unregulated fuels pose challenges because fuel use is not tracked at a level granular enough to drive measurable behavioral changes in fuel use. Nevertheless, fuel dealers could provide valuable insights to this proposed partnership.

Plan Concept

VEIC disagrees with the Department in its recommended parameter that a research plan written by a partnership of the Department's evaluation staff and the EEUs be used as a document **against which EEU performance is then measured**. A research plan is a

statement of a researcher's aims; the background and significance of a proposed project; preliminary studies that contribute to the project topic to be studied; and research design and methods, including hypotheses to be tested. It is not a statement of performance goals against which progress can subsequently be measured.

This proposed additional QPI is neither timely, of appropriate design, nor needed. The QPI framework has been established in the Board's April 8, 2014, Order for the 2015 – 2017 performance period.¹² The Order contains no latitude for adding new indicators beyond the two categories of business comprehensiveness and average monthly coincident peak, and the proposed indicator by the Department appears to fall into neither category. Given that the Department will be funding and controlling the pace and depth of the savings verification and associated evaluation activities, and therefore these activities will largely be outside an EEU's control, it does not appear reasonable to subject an EEU to a QPI that is dependent upon the pace and quality of those activities.

Instead, VEIC recommends that all relevant parties and guest experts be invited to discuss experimental design, brainstorm research questions, explore experience to date, identify barriers, develop evaluation mechanisms, and promote a culture of collaboration in designing and following a rigorous roadmap for moving forward.

Plan Logistics

To achieve well-informed outcomes, VEIC recommends two separate summits. One should address collaborative R&D from smart meter interval data. The other should address behavioral science frameworks and models for future research, program development, and evaluation of energy efficiency. The purpose of the summits will be to articulate research questions appropriate for Vermont programs, and to establish activities and set milestones for answering them. If these summits prove successful, this model could be considered for annual implementation.

VEIC would welcome the role of host and coordinator of such events.

Board Approval

The Department recommends (p. 11) that the plan be subject to Board approval. VEIC proposes that the plan be reviewed under current EEU and Department processes and the EEU Annual Plan, and that plan outcomes be reported in the Department's annual report of its evaluation activities.

VEIC and the Department have established a process for current NRA R&D review. VEIC suggests that the Department and VEIC work together to continually improve the process for both NRA R&D and the new RA R&D category.

¹² Order Determining Electric Quantitative Performance Indicator Framework, in Docket EEU-2013-01, 2013-2014 Demand Resources Plan Proceeding. The Order states that the "framework to develop proposed electric quantifiable performance indicators...shall include: (1) business comprehensiveness; and (2) a milestone indicator to address the feasibility of developing a QPI for average monthly coincident peak."

III. Energy conservation and the role of Opower's Home Energy Reports and other products in quantifying and attributing savings (p. 11)

The Department lists several open questions related to the Opower HER program (pp. 11-12). Substantial investigations and evaluations in other jurisdictions answer several of the Department's questions and provide further insight about the value of these data-driven initiatives. VEIC summarizes answers to these questions, and indicates areas in which further information is available and could be presented in a different forum such as a workshop presentation with the Board, the Department, and interested parties to explore concerns and share the available knowledge about behavioral programs gathered to date.

Question 1: *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. (p. 11)*

The HER program uses RCT methods. The treatment group receives periodic reports; the control group does not. Customers in either group may purchase efficient equipment. Savings from measures resulting from the treatment groups increased participation in upstream programs are modest. Six independent analyses of downstream measures and Opower's HER programs have shown that the program has a significant, positive effect on participation levels in other efficiency programs; less than 10% of the total Opower HER savings result from this participation increase.

Given that other entities have researched and quantified these effects¹³, VEIC remains convinced that, in partnership with the Department's evaluation effort, Vermont will be able to accurately attribute energy savings associated with treatment group participant's increased participation in upstream programs. Replicating the process to estimate the Vermont uplift effect should be neither complicated nor expensive.

Question 2: *What efficient equipment or equipment usage patterns are Vermonters actually changing in response to the HER reports? Smart meter data in and of itself*

¹³ *Evaluation of PG&E's Company's Home Energy Report Initiative, for the 2010-2012 Program*, Freeman, Sullivan & Co. Michael Perry and Sarah Woehleke (April 2013).

Massachusetts Cross-Cutting Behavioral Program Evaluation, Navigant Consulting and Opinion Dynamics (June 2011); *Puget Sound Energy's Home Energy Reports Program*; *Massachusetts Three Year Cross-Cutting Behavioral Program Integrated Report*, Opinion Dynamics Corporation with Navigant Consulting (July 2012); *Impact and Process Evaluation of 2011 (PY4) Ameren Illinois Company Behavioral Modification Program*, Opinion Dynamics with the Cadmus Group, Navigant, and Michaels Engineering (October 2012); *Impact & Persistence Evaluation Report: Sacramento Municipal Utility District Home Energy Report Program*, Integral Analytics, Inc. with Building Metrics Incorporated and Sageview (November 2012); *Energy Efficiency/Demand Response Plan: Plan Year 4 (6/1/2011-5/31/2012)*, *Evaluation Report: Home Energy Reports*, Navigant Consulting (November 2012); *Evaluation of PG&E's Company's Home Energy Report Initiative for the 2010-2012 Program*, Freeman Sullivan & Co. (April 2013).

gives us the potential to identify thermostat changes, daytime or nighttime setback adoption, some efficient product purchases, and plug load changes. (p. 11)

The Opower HER program measures overall savings reductions through behavioral change. There are several challenges to understanding patterns of equipment use. For example, equipment (appliances, lighting controls / switches) would require individual metering. Also, in Vermont, few homes are heated by electricity, so smart meter data might not be helpful in identifying thermostat changes in buildings heated with natural gas or TEPF. Survey data has been used in other jurisdictions to investigate this issue. These surveys could be easily adapted for use in Vermont.

Question 3: *Whether and to what extent engaging customers on their electric energy use can be shown to result in conservation savings in other fuels. (p. 11)*

VEIC agrees with the Department that this is an important question and looks forward to determining the best methods of further study of available data and behavioral science literature.

Question 4: *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 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. (pp. 11-12)*

Significant research into the post-treatment persistence of savings from HER programs now includes five independent evaluations covering four separate program deployments.¹⁴ These evaluations have found that in multi-year deployments of programs that are suddenly suspended, 25 to 55% of the savings persist into the second post-treatment year.

Also, post-treatment persistence of savings increases the longer the program is run before it is suspended¹⁵. For example, a persistence evaluation after a 6-month pilot program in Connecticut showed energy savings dissipated to zero within six months. The key variable is the duration of the program, and the results indicate that the savings from longer-running programs decay at a slower rate than those from shorter programs.

¹⁴ Puget Sound Energy's Home Energy Reports Program, *Persistence of Impacts from Opower's Home Energy Reports Programs: A Case Study of Utilities*, Faruqui, Ahmad, and Sanem Sergici, The Brattle Group (July 2012); *The Short-Run and Long-Run Effects of Behavioral Interventions: Experimental Evidence from Energy Conservation*, NBER Working Paper; *Impact & Persistence Evaluation Report: Sacramento Municipal Utility District Home Energy Report Program*, Integral Analytics, Inc. with Building Metrics Incorporated and Sageview (November 2012); and *Evaluation of the Year 1 CL&P Pilot Customer Behavior Program*, NMR Goup, Tetra Tech, and Hunt Allcott (March 2013).

¹⁵ Hunt Allcott and Todd Rogers, "The Short-Run and Long-Run Effects of Behavioral Interventions: Experimental Evidence from Energy Conservation. New York: New York University. 2012. Also in NBER Working Paper Series (National Bureau of Economic Research, Cambridge, Mass.) Working Paper 18492.
<https://files.nyu.edu/ha32/public/research/Allcott%20and%20Rogers%20-%20The%20Short-Run%20and%20Long-Run%20Effects%20of%20Behavioral%20Interventions.pdf>.



Question 5: *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. (p. 12)*

Research to date on the optimal program structure and how to apply adaptive messaging discusses the success of customized program communications. Adaptive messaging requires analytics, customer segmentation, and targeting software. VEIC is working with Opower to use adaptive messaging to maximize Vermont's program cost-effectiveness.

Question 6: *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. (p. 12)*

VEIC agrees that it is important to understand what messages are most effective in driving equipment uplift and changing conservation behavior. VEIC routinely creates and evaluates the effect of its messaging. See also the discussion in **Question 5** on adaptive messaging.

Question 7: *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. (p. 12)*

It is widely acknowledged that behavioral initiatives also benefit the C&I sector¹⁶. Efficiency Vermont's CEI pilot is exploring the extent of these benefits. This program is an example of a behavior-based program that does not rely on smart meter interval data to be effective. In the case of C&I programs, for example, sub-metering data might be more relevant for identifying opportunities for motivating customers to change behavior.

Question 8: *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 EEU's energy conservation R&D programs. Should some of the EEU's energy conservation R&D programs yield verified, cost-effective savings

¹⁶ The literature in intelligent efficiency is significant and growing. For an overview and analysis of the concept, see Ethan Rogers, R. Neal Elliott, Sameer Kwaltra, Daniel Trombley, and Vasanth Ndadur, "Intelligent Efficiency: Opportunities, Barriers, and Solutions." Washington, DC: American Council for an Energy-Efficient Economy, October 24, 2013.



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 EEU's 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. (p. 12)

VEIC supports the Department's recommendation to further discuss cost-effective energy conservation R&D programs. Because many other states' regulatory commissions have allowed behavioral-based savings to be claimed and have verified those claims, VEIC's proposal envisions the costs and savings from some of the 2015 – 2016 RA R&D initiatives being implemented and reported in the 2017 RA category (not the RA R&D category).

Question 9: *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. (p. 12)*

VEIC agrees with the Department's recommendation. VEIC appreciates the Department's recognition and support of funding for behavior-based initiatives and looks forward to discussing options for moving forward with the Department, Board, and other key stakeholders.

2. TEPF RESOURCE ACQUISITION BUDGETS AND SAVINGS

VEIC concurs with the Department's characterization of the collaboration in creating the 10-year Thermal Energy and Process Fuels (TEPF) strategy, and in designing the portfolio of initiatives to achieve our goals. The significant difference in our respective filings relates to the TEPF share of the Non-Resource Acquisition (NRA) budget, the Operations Fee and Performance Award. VEIC used a combined 20% placeholder to budget these components and made no assumption in the TEPF plan with respect to the total amount of individual costs. The Department used different assumptions for compensation and NRA budget, resulting in a different Resource Acquisition budget.

Depending on the final budget ordered by the Board, VEIC expects to remodel the Resource Acquisition budgets and estimated savings. Because VEIC and the Department are in agreement on the allocation of initiatives, savings, and project yields within the Resource Acquisition budget, we anticipate coming to agreement without difficulty on updated TEPF

savings targets. VEIC will use the budget spreadsheet submitted to the Board on April 16, 2014, to adjust the budget and to scale the estimated energy savings appropriately.¹⁷

3. NON-RESOURCE ACQUISITION BUDGETS – ELECTRIC AND TEPF

VEIC notes that the DPS NRA budget recommendation filed on April 16, 2014, understates the 2015-2034 NRA budget by \$7,284,732. The Department applied a split of 88% Electric / 12% TEPF to each year's total NRA budget to calculate electric and TEPF NRA budgets. Beyond the initial 10 years during which the TEPF programs operate, the Department continued applying 88% to the electric NRA budget, but discontinued applying 12% for the TEPF NRA budget. Consequently, 12% of the NRA 2025 – 2034 budget—the \$7,284,732—is missing from years 2025-2034. We suggest that an additional 12% of the total NRA budget be added to the electric NRA budget in each of the final ten years, 2025-2034. This recommendation increases forecasted electric spending in years 2025 – 2034, but has no effect on the Department's and VEIC's 2015 – 2017 NRA budget proposal.

4. EEU COMPENSATION RATES AND BUDGETS

4.1 General Comments

VEIC appreciates the opportunity to provide comments regarding the Vermont Public Service Department's filing, *EEU 2013-01 Public Service Department 2015-2017 Budget Recommendations*. On pages 14 and 15 of this filing, the Department specifically addressed compensation to VEIC during the 2015-2017 period for administration and implementation of Efficiency Vermont. VEIC wishes to acknowledge and appreciate the work of Department staff in conducting research and informing the discussion of compensation for the next performance period. Based on the Department's filing and subsequent discussions with the Department, VEIC has reconsidered its overall compensation rate, operations fee, and QPI performance award recommendations. The revised recommendation appears at the end of **Section 4.2**. This revision reflects VEIC's interest to move in a direction that is in the best interest for the state of Vermont while maintaining an appropriate and fair compensation level compared to other New England and northeastern state efficiency program service providers. The following subsections address the Department's key points, in the order in which they were presented in the filing.

¹⁷ 3. VEIC TEPF Budget and Savings 2015-2024.xlsx

4.2 Amount of Compensation for Performance Award Relative to the Operations Fee

On page 15, the Department states:

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.

VEIC disagrees with the Department's position that the percentage allocated to the Performance Award and the percentage allocated to the Operations Fee designation is best determined at the time the QPIs are considered. This issue was discussed by stakeholders prior to implementing the 2015 – 2034 DRPP. The recommendation to include the determination of the compensation component operation fee and QPI rates at this stage of the DRPP was incorporated into the Board's Order adopting the schedule¹⁸.

Although the Department asserts that the allocation of the compensation should be based on the risk associated with reaching the QPIs, as noted below in **Section 4.4**, VEIC has seldom lagged in the performance of QPIs, regardless of the risk associated with them. The overarching QPI setting concept is that QPIs should be achievable at the 100% level and provide VEIC the opportunity to earn 100% of the earmarked compensation. QPIs also provide for super-stretch targets, but do not allow for earning more total compensation than has been set by the Board. When QPIs are set beyond achievable levels, they introduce greater risk. Setting aside more funds for performance will not achieve the result desired. Establishing the proper balance of performance award for each QPI will be easier with an established fixed amount. This enables the parties to focus on the relative importance of each QPI and enables setting appropriate targets for performance that constitute achievable performance and that constitute super-stretch performance.

In consideration of recent discussions with the PSD, VEIC withdraws the original compensation rate recommendation that offered separate rates for each of the three budget scenarios. VEIC now recommends a compensation rate of **5%** of the Efficiency Vermont budget, . This recommendation is regardless of which budget scenario in the Demand Resources Plan is adopted by the Board. The change represents a 17% reduction from VEIC's original proposal of a 6% compensation rate for budget scenarios 1 and 2. It positions the VEIC compensation rate below the median compensation rate for other New England service providers for energy efficiency. VEIC continues to recommend that the compensation be equally distributed

¹⁸ EEU-2013-01 Third Adjusted Schedule call for parties to file on April 16, (4) EEU compensation (QPI award and operations fee) **rates and budgets** (emphasis added). Further, the June 6 Board Order is to establish, "EU compensation (QPI award and operations fees) rates and budgets.

between operations fee and performance award. That is: **2.5% for the operations fee and 2.5% for the performance award** for the period 2015-2017.

4.3 Questions for Points of Clarity

On page 15, the Department states:

In making our compensation recommendation the Department has reviewed not only the compensation structures of entities providing comparable services.....

VEIC requests that the Department clarify the following points regarding the entities that they researched, providing comparable services and their associated compensation structures:

1. What characteristics of the VEIC / Efficiency Vermont model did the Department choose as points of comparison, which then enabled the Department to select entities that are similar to VEIC?
2. To what extent did the Department identify comparable entities with a capped compensation model, inclusive of a “cost-plus” or operations fee component, similar to that of the VEIC / Efficiency Vermont model?
3. Did the Department identify and distinguish among entities that primarily administer efficiency program subcontractors and those that actually implement the efficiency program services themselves? If so, how do these entities differ?
4. For the entities chosen by the Department, what is the percentage of total compensation above cost, paid for the program—including margins earned by subcontractors?
5. How did the Department use the results of the compared compensation structures to assess whether the compensation structure for the VEIC / Efficiency Vermont model provides a “fair return,” as directed by the Board’s Order of Appointment?¹⁹ We note that the Department does not provide an assessment of what constitutes “fair return” in its filing.

4.4 The Role of “Fair Return” in Compensation

On page 14 of its filing, the Department notes:

Compensation to VEIC is meant to ensure organizational cash flow and viability through guaranteed margin on cost (Operations Fee) and also serve as a

¹⁹ “An EEU shall be afforded the opportunity to recover just and reasonable costs and expenses accrued in the provision of services and initiatives under an Appointment, and to earn a fair return.” Vermont Public Service Board, *Process and Administration of an Energy Efficiency Utility Order of Appointment*, approved by the Public Service Board, 2010. P. 18.

motivational tool to encourage achievement of performance goals (Performance Award).

It should be noted that *compensation* means more than ensuring cash flow, viability, and motivation. The Performance Award, which is the at-risk portion of compensation, provides a clear prioritization of the performance metrics that the State deems to be the most important. This prioritization guides day-to-day management of Efficiency Vermont. VEIC's ability to put an emphasis on delivering strong quantitative results explains why VEIC has historically been so successful at achieving the compensation that is at risk.

Further, compensation is the means by which VEIC, as a nonprofit corporation, can grow its mission. "Fair return" or fair compensation in a nonprofit is the resource needed to invest in order to create opportunities for greater impacts. Unlike compensation for for-profit organizations, compensation for non-profit organizations is not distributed to shareholders or principals of the corporation. And unlike state government and municipal electric utilities that are solely dedicated to serving a defined geography, VEIC's non-profit mission is to expand its role in the country and in the world.

Since the inception of Efficiency Vermont in 2000, VEIC agreed to put compensation at risk (the Performance Award) to demonstrate the organization's commitment to high performance and reliable results. As the Department states, we have "seldom lagged" in this effort. But the issue at hand is not whether the Performance Award is sufficient to keep VEIC motivated (it is the urgency of the environmental and social imperatives relating to how energy is used that keeps us motivated). The issue is instead whether the compensation offers the opportunity for VEIC to earn a "fair return" for comparable work in the marketplace—so that the organization can remain competitive in terms of staffing, knowledge, and innovation, given the regulatory constraints under which VEIC operate. Compensation also helps to support our mission, which is grounded in the environmental and social imperatives.

Given that the Department did not address "fair return" in its filing, we respectfully request that the Board ask the Department to discuss how it defined *fair return* in the context of its decision to recommend a 4.1% compensation rate²⁰ for the 2015 – 2017 performance period,

Finally, whenever a vendor provides increased value in the marketplace, it is frequently rewarded with increased compensation. However, the Department states:

VEIC has performed well relative to its targets. However it does not necessarily follow that an increase in the compensation rate is warranted. (p. 15)

By several measures, VEIC performance has positioned Efficiency Vermont as a consistent national leader in meeting rigorous regulatory objectives and in reducing statewide energy

²⁰ VEIC notes that the Departments' proposed application of their proposed 4.1% rate differs from the approved 2012 – 2014 compensation rate methodology. Employing the Departments' method, the comparable 2012 – 2014 compensation rate would be reduced to 3.94%

use.²¹ Despite these achievements, it receives the lowest compensation of all the New England and northeastern states, as a percent of its program budget. Consistent high performance would suggest that the compensation rate for continuing to increase value to the State and to its utility ratepayers should be part of an assessment of what constitutes “fair return.”

5. PUBLIC SERVICE DEPARTMENT EVALUATION PLAN AND BUDGET

5.1 General Comments

VEIC’s comments on the Department’s Evaluation Plan and Budget refer directly to the document, *Vermont Public Service Department Energy Efficiency Evaluation Plan 2015-2017*, filed April 16, 2014. The section headings and page numbers contained in these comments refer to those in that document.

1. Introduction

VEIC agrees with the Department’s assessment that

... differences in evaluation purpose, timing, and impact requirements make a merging of the Forward Capacity Market and annual savings verification process complex.

VEIC supports the Department’s proposal to “explore the areas where practical synergies present themselves.” while continuing to “consider the annual savings verification process and the FCM evaluation as independent efforts.”

2. Market Characterizations & Assessments

VEIC supports the Department’s proposed carryover of unspent 2012 – 2014 residential and commercial market assessment funding for its use for that activity in the 2015 – 2017 performance period. Likewise, VEIC supports the Department’s proposal to carry over unspent 2012 – 2014 NRA evaluation funding.

²¹ In a February 13, 2014, hearing of the Energy Subcommittee of the U.S. Senate Committee on Energy & Natural Resources, the Executive Director of the American Council on an Energy-Efficient Economy (ACEEE), Steve Nadel, cited successful approaches in practice at state efficiency and renewable programs. He led with Efficiency Vermont’s success. His testimony also incorporated comments about VEIC’s leadership in bidding Efficiency Vermont capacity credits into ISO New England’s Forward Capacity Market. It is also important to note that the strength of Efficiency Vermont’s performance has been sufficient across many years to place Vermont’s utility sector rankings at or near the top of the ACEEE State Scorecard. <http://www.veic.org/media-room/news/2014/02/13/vermont-s-energy-efficiency-leadership-cited-at-congressional-hearing> and <http://www.aceee.org/files/pdf/summary/e13k-summary.pdf>.

3. Benchmarking of Vermont Energy Efficiency Efforts

The Department proposes to

... report benchmarking results at least once in the 2015-2017 performance period, however it plans to collect and update data annually throughout the performance period.

On page 16, the Department also describes its anticipated evaluation planning and administration activities, which involve annual reporting of results. VEIC recommends that the Department consider reporting new benchmarking data as a component of its annual reporting of results. In addition, the Department proposes that the benchmarking activity be funded by EEC funds. VEIC recommends that benchmarking be expanded to include an EEU's thermal efficiency performance, and that such funding be reasonably allocated from the corresponding funding sources.

4. Behavioral and Smart Grid R&D Evaluation Activities

The Department's proposed 2015 – 2017 budget for Behavioral and Smart Grid R&D Evaluation Activities is \$784,100 or approximately 15% of the proposed \$5,004,067 three year EEU RA R&D program expenditures. It is unclear how the Department arrived at this proposed budget. VEIC previously identified the average cost to initially evaluate a residential behavior-based program to be less than \$100,000, and that this level of evaluation is not likely to be needed every year. VEIC requests that the Department provide additional details to support this proposed level of expenditure.

5. Overall Performance Assessment

The Department states that "Department staff time allotted to the Overall Performance Assessment (OPA) will be billed-back to the EEU(s)." The Department's Attachment B estimates those costs at \$188,400 from EEC funds and \$25,700 in TEPF funds. The Department provides no justification for proposing this different funding method for recovering these costs. The EEUs have not proposed an allocation of NRA funding for the reimbursement of Department activities related to the OPA. Given that all EEU costs are ultimately reimbursed from the Electric Energy Efficiency Fund, greater transparency and administrative efficiency can be achieved if the Department were to recover those costs in a similar manner to the recovery of its costs for other evaluation activities.

5.2 Comments Specific to the Evaluation of TEPF Activity

VEIC recommends the Department identify and propose funding for evaluation activities for TEPF funded programs in addition to the planned activities evaluating the Home Performance with ENERGY STAR® (HPwES) initiative and conducting a Potential Study. Historically HPwES

has accounted for the majority of spending and savings; however the 2015-2024 DRP forecasts HPwES at 24% of overall TEPF savings.

VEIC recommends allocating TEPF funding to the Annual Savings Verification activity, as well as the Technical Advisory Group and Technical Reference Manual Review activities. Source funding for this work should be allocated between EEC and TEPF, corresponding to their percentage of overall Resource Acquisition budgets. TEPF activities could be included within existing EEC processes.