

STATE OF VERMONT
PUBLIC SERVICE BOARD

EEU-2013-01

2013-2014 Demand Resources Plan Proceeding)

Order entered: 7/9/2014

**ORDER RE: ENERGY EFFICIENCY UTILITY
BUDGETS FOR DEMAND RESOURCES PLAN**

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I. INTRODUCTION

The Vermont Public Service Board ("Board") initiated this proceeding to develop the second Long-Term Demand Resources Plan ("DRP") for the Energy Efficiency Utility¹ ("EEU") program. Key elements of the DRP are annual electric efficiency budgets for a twenty-year period and annual estimated thermal-energy-and-process-fuels ("TEPF") efficiency budgets for a ten-year period.² These long-term budgets are comprised of several components, including: resource-acquisition activities;³ non-resource-acquisition activities; evaluation activities; fiscal agent costs; and EEU operations fees and performance-based payments. In this Order, we make determinations regarding these various components in order to establish long-term electric and TEPF budgets for the EEU program. All components of the long-term budgets we establish today will be revisited every three years through subsequent workshop processes.

Vermont law requires EEU budgets funded via the Energy Efficiency Charge ("EEC") to be set at a level that would realize "all reasonably available, cost-effective energy efficiency," and sets forth specific objectives for the Board to consider when setting electric EEU budgets.⁴ After considering all of these factors, we hereby establish funding levels for the electric portion of the

1. Efficiency Vermont delivers EEU services throughout most of the state. The City of Burlington Electric Department ("BED") delivers EEU services in its service territory. In Docket No. 7676, the Board has determined that Vermont Gas Systems, Inc., ("VGS") will deliver natural-gas EEU services in its service territory.

2. As determined by the Board in Docket 7466 (the Board's investigation into the EEU structure), and subsequently amended in EEU-2013-05 (the Board's investigation into proposed modifications to the Process and Administration of an Energy Efficiency Utility document), the DRP will also include: (1) year-by-year values for statewide demand-side electricity resource acquisition ("RA") savings goals by calendar year for a twenty-year period, and year-by-year values for statewide TEPF savings goals by calendar year for a ten-year period; (2) budgets and performance indicators for each EEU; (3) year-by-year budgets for non-resource acquisition ("NRA") services to be provided by EEUs; and (4) budgets necessary for the evaluation of EEU services by the Vermont Department of Public Service ("Department"). *Proposed Modifications to the Process and Administration Document*, EEU-2013-05, Order of 10/4/13 and Appendix A.

3. Resource-acquisition activities are those which lead directly to measurable savings. Non-resource-acquisition activities are those which advance the EEU program's goal of saving energy, but do not lead directly to measurable savings (for example, energy efficiency training and education activities).

4. 30 V.S.A. § 209(d)(3)(B) and (f)(14).

EEU program of \$52.2 million in 2015, \$56.2 million in 2016, and \$58.7 million in 2017.⁵ We further establish estimated TEPF budgets for the EEU program of \$7.1 million in 2015, \$7.7 million in 2016, and \$8.3 million in 2017. In addition, for planning purposes, we establish annual electric EEU budgets for the years 2018 through 2034, and annual TEPF EEU budgets for the years 2018 through 2024.⁶

The long-term budgets we establish today will be incorporated into the DRP and used by the EEU's and other entities for planning purposes. While most of these annual budgets (those for 2018 through 2034 for electric, and 2018 through 2024 for TEPF) are subject to revision in later DRPs, the electric efficiency budgets for 2015, 2016, and 2017 (including all of their components) are the actual budgets that will be used in those years. The TEPF budgets for 2015, 2016, and 2017 are estimates, and may be updated if funding estimates from the regional ISO New England ("ISO-NE") Forward Capacity Market ("FCM")⁷ and Regional Greenhouse Gas Initiative ("RGGI")⁸ change.⁹

5. This equates to approximately a 13.7 percent increase in the EEC rates in 2015, based on year-over-year electric efficiency budget increases, a 7.7 percent increase in the EEC rates in 2016, and a 4.4 percent increase in the EEC rates in 2017. Excluding the Customer Credit Program Participant budget, which was not a consideration when the 2012-2014 budgets were approved, the electric efficiency budgets established today represent an increase of 11.5 percent in the EEC rates in 2015, a 7.8 percent increase in the EEC rates in 2016, and a 4.5 percent increase in the EEC rates in 2017. All budgets discussed in this Order are expressed in nominal dollars.

6. Annual electric budgets for the years 2018 through 2034, and TEPF budgets for the years 2018 through 2024, are shown in Appendix A to this Order. Appendix A also demonstrates how these annual amounts are divided among the various electric and TEPF budget components.

7. ISO-NE is the regional transmission organization for New England. The Forward Capacity Market is a market-based structure designed to ensure that there are sufficient resources to serve New England's peak load. The FCM utilizes an auction structure through which capacity resources compete to obtain a market-priced capacity payment, in exchange for a commitment to be available in future years to meet the region's electricity needs. Energy efficiency is eligible to bid into the FCM.

8. The Regional Greenhouse Gas Initiative is a cooperative effort by Northeastern and Mid-Atlantic states (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont) to reduce carbon dioxide emissions through the implementation of a multi-state cap-and-trade program with a market-based emissions trading system involving a regional auction platform to sell carbon dioxide allowances.

9. Pursuant to 30 V.S.A. § 209(e)(1), net revenues above costs associated with (1) payments from the New England Independent System Operator ("ISO-NE") for capacity savings resulting from the activities of the EEU's and (2) the sale of carbon credits under the RGGI cap and trade program shall be used to deliver TEPF energy efficiency

This Order follows a complex, twelve-month workshop process that dealt with numerous issues related to the development of the DRP. Today's Order does not make all of the decisions necessary to finalize the DRP. Rather, it addresses: (1) electric RA budgets; (2) TEPF RA budgets; (3) NRA budgets (split between electric and TEPF) and descriptions; (4) EEU compensation rates and budgets; (5) the Department's EEU evaluation plan and budget; and (6) EEU Fiscal Agent and EEU Fund audit budgets. Future Board orders will address updated electric and TEPF savings estimates, quantifiable performance indicator ("QPI") targets, and an "Omnibus Order", which will constitute the DRP.¹⁰

As part of this process, the Department presented an updated electric efficiency potential study (the "2013 Potential Study"), and participants considered three possible scenarios for electric efficiency RA budget levels before making their overall electric efficiency budget recommendations. The three electric efficiency RA scenarios that were modeled include: (1) Scenario 1—acquire all economically achievable potential through level budgets (adjusted for inflation) over twenty years; (2) Scenario 2—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; and (3) Scenario 3—ramp up to and maintain acquisition of 3% savings relative to annual electric energy usage by year 2019. The participants' overall electric efficiency budget recommendations largely reflected the modeling outcomes of these three scenarios.

In this Order, we conclude that additional cost-effective electric energy efficiency is reasonably available, and therefore we are increasing the electric EEU budget. This additional investment in cost-effective energy efficiency will result in total electric costs to Vermont that are lower than they would otherwise be by yielding savings for consumers who install electric efficiency measures as well as savings for all ratepayers through reduced need for power

services. Unlike the EEC charge used for electric efficiency funds, the Board does not control the amount of net revenues available for these TEPF services.

10. The "Omnibus Order" is discussed in greater detail in Section IV.B.

purchases by utilities, deferred need for system upgrades such as new transmission facilities, and other statewide savings.¹¹

However, increased spending on electric efficiency also raises EEC rates. The EEC, although small in relation to total electric charges, is additive to overall rates. Today's decision establishing new EEU budget levels is likely to increase rates for all Vermont customers above what they would be at the current EEU budget level.

While all EEU investments are required by statute to be cost-effective, and do provide a significant long-term net benefit to Vermont, the out-of-pocket cost of efficiency services is borne up front. In this respect, investing in efficiency is similar to investing in a retirement account — viewed from a long-term perspective, the best approach is to invest today the maximum amount allowable; however, at times many people cannot afford to do so. We recognize that increases in EEC rates in the short term may be burdensome to some ratepayers and balance that consideration in determining overall EEU budgets. Nevertheless, we conclude that increasing EEU budgets will result in long-term benefits to Vermont ratepayers as a whole.

Our concern regarding the economic impact of electricity rates on Vermont businesses and residents has influenced our decision to increase the EEU budget at a slower pace than that recommended by some workshop participants. This slower pace also accounts for the practical difficulties associated with ramping up energy efficiency sources too quickly, with a short planning window, and will enable the EEU's to plan for and implement their services in the most cost-effective manner. Nevertheless, when viewed over the DRP's twenty-year planning horizon, the long-term electric budgets we establish today will enable the EEU's to acquire all reasonably available, cost-effective electric energy efficiency.

II. BACKGROUND AND PARTICIPANTS' SUMMARY BUDGET RECOMMENDATIONS

A. Background

In 2009, the Board opened Docket 7466 to consider a petition filed by the Department regarding the EEU program structure. In a series of Orders, we determined that the EEU

11. See Rate and Bill Impacts of Vermont Energy Efficiency Programs, prepared for and filed by the Department on April 16, 2014 ("Synapse Report").

program structure should be modified to adopt an Order of Appointment model¹² and we issued Orders of Appointment to Vermont Energy Investment Corporation ("VEIC")¹³ and BED to serve as EEUs.¹⁴ In the Order approving VEIC's Order of Appointment, we also approved a separate document (the "P&A Document") that describes the overall EEU program structure under the Order of Appointment model.¹⁵

In 2013 the Board opened EEU-2013-05 to consider modifications to the P&A Document jointly proposed by the Department, VEIC, and BED. In October of 2013, the Board approved modifications to certain portions of the P&A Document. The P&A Document now includes a distinct section describing the DRP for the EEU program, including the contents of a DRP as well as the process to be followed in developing a DRP.¹⁶

In June of 2013, we initiated this proceeding to develop the second DRP as provided for in the P&A Document.¹⁷ Because this process was not a formal docket, there were no parties and no deadlines for intervention. In this Order, we use the term "participants" to refer to all of the individuals and entities who filed formal written comments or who asked to be included on the Board's e-mail service list for this process, regardless of the extent to which they actually attended the workshops. This e-mail service list is attached as Appendix B.

Board staff conducted the initial workshop in this proceeding on June 18, 2013.

Subsequently we established a schedule for this proceeding that included five sequential phases: (1) Phase 1 included the development of a schedule and requested proposals for modeling scenarios; (2) Phase 2 included the determination of scenarios to be modeled, including modeling input assumptions, and QPI frameworks; (3) Phase 3 included consideration of electric

12. Order of 11/24/09, generally.

13. VEIC serves as Efficiency Vermont.

14. Order of 12/20/10, and Order of 4/19/11, respectively.

15. The "P&A Document" is the Process and Administration of an Energy Efficiency Utility Order of Appointment, approved in Docket No. 7466, Order of 12/20/10.

16. EEU-2013-05, Order of 10/4/13.

17. EEU-2013-01, Order of 6/10/13.

and TEPF modeling input assumptions, modeling results, and budget and savings recommendations; (4) Phase 4 will include consideration of updated electric and TEPF savings estimates, the establishment of QPI targets, including scaling and weighting, and issuance of the Omnibus Order; and (5) Phase 5 will include EEU ramp-up and the filing of triennial plans.¹⁸

B. Participants' Summary Budget Recommendations

BED, the Department, and VEIC filed comprehensive three-year and 20-year recommendations for electric EEU budgets.¹⁹ CLF and VPIRG jointly recommended that the Board approve budgets consistent with Scenario 3; their recommendations did not address specific electric RA budgets, or budgets for NRA, evaluation, TEPF RA and NRA, fiscal agent, and compensation. Similarly, AIV recommended electric RA budgets consistent with Scenario 1; AIV did not address specific electric RA budgets, or budgets for NRA, evaluation, TEPF RA and NRA, fiscal agent, and compensation.²⁰ The participants' recommendations for the first three years are summarized in the table below.²¹

18. EEU-2013-01, Order of 8/1/13.

19. BED's recommendation was for BED EEU budgets only, and did not address VEIC budgets.

20. AIV supports lower budget levels than those represented in Scenario 1. AIV also recommends that the Board reexamine and develop possible alternative funding mechanisms to the EEC and, when appropriate, adjust EEU budgets to best incorporate such alternatives. Letter from William Driscoll, to Susan M. Hudson, Clerk of the Board, dated April 16, 2014, at 1. We discuss this recommendation in Section III.F.6., below.

21. BED states that it worked collaboratively with the Department on the budget and savings recommendations and represents that the Department supports BED's recommendations. Letter from Chris Burns, to Susan M. Hudson, Clerk of the Board, dated April 16, 2014, at 1.

| Comparison of Recommended Budget Levels for 2015, 2016, and 2017 <i>Dollars in Millions</i> | | | | |
|---|------------------------|------------------------|------------------------|--------------------------------|
| Participant | 2015 | 2016 | 2017 | 3-Year Total Budget |
| BED (Nominal \$) | \$2.6 | \$2.8 | \$3.0 | \$8.5 |
| Department (Nominal \$) | \$59.1 | \$63.6 | \$66.5 | \$189.2 |
| VEIC (Nominal \$) | \$59.8 | \$64.2 | \$67.3 | \$191.3 |
| CLF/VPIRG (Real 2015\$) | \$56.2 (Scenario 3) | \$62.0 (Scenario 3) | \$69.2 (Scenario 3) | \$187 |
| AIV (Real 2015\$) | \$44.2 (Scenario 1) | \$44.2 (Scenario 1) | \$44.3 (Scenario 1) | \$132.7 |

For the longer term, the Department recommends electric EEU budgets that increase each year, from approximately \$66.5 million in 2017 to approximately \$73.3 million in 2021 and approximately \$84.2 million in 2031. VEIC recommends electric EEU budgets that match the Department's proposed increases each year, except VEIC adjusts its budgets to reflect an increase in the compensation (Operations Fee and QPI Award) to 5% per year. In addition, the Board received a petition filed by VPIRG, on behalf of 479 Vermonters, advocating for funding to achieve 3% annual electric efficiency savings.

Both the short- and long-term budget recommendations described above reflect the participants' recommendations on various budget components. These components include: electric RA activities; NRA activities (including TEPF); evaluation activities; fiscal agent costs; and EEU operations fees and performance-based payments. The participants' recommendations on these individual components, as well as on certain policy issues related to these budget components, are described in the sections of this Order that discuss those components and issues.

III. DISCUSSION

30 V.S.A. § 209(d)(3)(B) provides the Board with the following guidance for determining the electric EEU budget:

The charge established by the Board pursuant to this subdivision (3) shall be in an amount determined by the Board by rule or order that is consistent with the principles of least cost integrated planning as defined in section 218c of this title. As circumstances and programs evolve, the amount of the charge shall be reviewed for unrealized energy efficiency potential and 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: reducing the size of future power purchases; reducing the generation of greenhouse gases; limiting the need to upgrade the State's transmission and distribution infrastructure; minimizing the costs of electricity; reducing Vermont's total energy demand, consumption, and expenditures; providing efficiency and conservation as a part of a comprehensive resource supply strategy; providing the opportunity for all Vermonters to participate in efficiency and conservation programs; and the value of targeting efficiency and conservation efforts to locations, markets or customers where they may provide the greatest value.

In addition, 30 V.S.A. § 209(e)(14) requires the Board to consider the impact on retail electric rates of electric efficiency programs.

We have considered all of these factors in determining reasonable electric EEU budget levels, taking into consideration not only the substantial net benefits of electric efficiency but also the rate impacts that the EEC will have on Vermont's electric customers.

A. System Benefits of Electric Efficiency Programs

The benefits of electric efficiency programs for customers who participate in those programs are widely recognized — electric efficiency programs help customers reduce their electricity consumption, thereby lowering their bills. In addition, Vermont ratepayers who do not participate in electric efficiency programs nonetheless also benefit from those programs.

Because electric efficiency investments are only made if they are cost-effective, they reduce the total cost of providing electricity, resulting in lower rates at the time of the utility's next rate case than would be the case without the energy efficiency investment. In other words,

there are "system benefits" associated with electric efficiency investments that accrue to all ratepayers, regardless of whether they participate in the energy efficiency programs. These system benefits include:

- reduced power purchases and transmission costs that a utility would otherwise have had to incur;
- reduced reserve margins that a utility would otherwise have had to meet;²²
- reduced ancillary service charges that a utility would otherwise have had to incur;²³
- reduced transmission line losses that a utility would otherwise have experienced;²⁴
- reduced costs of hedging against volatility; and
- deferred need for transmission or distribution system upgrades.

While many of these system benefits are difficult to quantify, they are nonetheless significant.

B. Participants' Electric-Resource-Acquisition Budget Recommendations

As noted above, resource-acquisition activities are those which lead directly to measurable savings. Resource-acquisition activities are the largest component of each EEU's annual electric budget.

The following table compares the participants' electric RA budget recommendations for the years 2015-2017. As indicated, BED prepared only electric RA budgets for BED, and did not

22. For reliability purposes, utilities are required to demonstrate that they can provide a certain percentage of power generation, beyond that which they expect to actually need, for the purpose of covering contingencies. This extra power generation is referred to as a "reserve margin." The costs of reserve margins are charged to all utility customers. Therefore, if one customer uses less power, the utility's required reserve margin is lower, and all customers benefit.

23. Ancillary services are necessary services for the electric system to operate reliably. These include services that enable the system operator to exactly match electricity demand and supply at every moment, which is necessary to prevent changes in voltage levels and system outages. All customers benefit through lower rates when a utility's purchases of ancillary services are decreased.

24. Line losses increase exponentially as transmission loads increase linearly. All customers pay for line losses. When one customer reduces demand, less generation is transmitted from the source to the customer and line losses are lower, thereby benefitting all customers.

comment on budgets for Efficiency Vermont, while others combined their recommendations for both entities.

| Comparison of Recommended Electric-Resource-Acquisition Budget Levels for 2015, 2016, and 2017, and Cumulative Funding <i>Dollars in Millions</i> | | | | |
|---|---------------------------|---------------------------|---------------------------|------------------------------------|
| Participant | 2015 | 2016 | 2017 | 3-Year Budget Total |
| BED (Nominal \$) | BED: \$2.3 | BED: \$2.5 | BED: \$2.7 | BED: \$7.6 |
| Department/VEIC (Nominal \$) | EVT: \$39.4 BED: \$2.3 | EVT: \$42.5 BED: \$2.5 | EVT: \$45.6 BED: \$2.7 | EVT: \$127.4 BED: \$7.6 |
| CLF/VPIRG* (Real 2015\$) | EVT: \$52.5 BED: \$3.7 | EVT: \$58.0 BED: \$4.1 | EVT: \$64.6 BED: \$4.7 | EVT: \$175.0 BED: \$12.4 |
| AIV** (Real 2015\$) | EVT: \$41.8 BED: \$2.4 | EVT: \$41.8 BED: \$2.4 | EVT: \$41.8 BED: \$2.5 | EVT: \$125.4 BED: \$7.3 |

*CLF and VPIRG based their recommendation on Scenario 3. Therefore, the recommended budgets shown in this chart reflect the scenario modeling results submitted for Efficiency Vermont and BED. The scenario modeling results submitted for Efficiency Vermont were expressed in 2015 dollars.

**AIV based its recommendation on Scenario 1. Therefore, the recommended budgets shown in this chart reflect the scenario modeling results submitted for Efficiency Vermont and BED. The scenario modeling results submitted for Efficiency Vermont were expressed in 2015 dollars.

The Department recommends that electric resource acquisition budgets for Efficiency Vermont and BED be increased at a pace largely consistent with Scenario 2 (approximately 8% per year), which is generally in line with the annual average increase during the recent 2012-2014 period. At this rate the Department represents that its recommendations for BED and Efficiency Vermont's electric resource acquisition budgets would provide approximately 2.25% and 2.32% savings, respectively, relative to annual energy usage by 2017 (in their respective service territories). These estimates assume that the EEU's will outperform the modeled savings based on current trends.²⁵

25. Letter from Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated April 16, 2014, ("Department Budget Recommendations") at 1-2.

In addition, due to rapid innovation in the strategies and means of acquiring electric efficiency resources in recent years, the Department recommends enhancing research and development ("R&D") activities such that the EEUs develop and pursue pilot programs with the goal of identifying ways to best utilize the state's smart grid investments and higher-resolution meter data to improve cost-effective savings from energy efficiency and conservation. The Department believes that behavioral science innovations can play a key role in this effort by helping to form the basis for successful marketing programs aimed at the installation of equipment measures and control technologies. Accordingly, the Department recommends that the Board approve a new budget category—Resource Acquisition Research and Development ("RA R&D"). However, the Department has not included estimates of the savings to be achieved during the course of these RA R&D activities, because while the Department believes that they are very likely to yield savings over the near term, the magnitude of the savings is uncertain. Accordingly, the Department further recommends that any savings acquired through these innovative activities be tracked but not be counted toward the EEUs' performance targets.²⁶

Initially, VEIC recommended Scenario 3 as the preferable state-wide DRP for the 2015-2034 period since VEIC believed it provided potential savings of up to 3% in annual electric demand, offered the lowest electricity bills for ratepayers, and provided the largest reductions in carbon emissions.²⁷ However, after engaging with the Department in an effort to reach agreement on the electric resource acquisition budgets, VEIC decided to support the Department's electric resource acquisition budget proposal. VEIC states 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 efficiency resource initiative funding; and (3) Vermont ratepayers' willingness and abilities to increase efficiency funding and efficiency

26. *Id.* at 10-11.

27. VEIC, *Recommended Electric Energy Efficiency Scenario* April 16, 2014, at 3.

project participation. The only adjustment VEIC proposes is to modify the annual allocations for RA R&D while maintaining the same total budgeted amount.²⁸

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. Nevertheless, the Department projects that 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 due to 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.²⁹

CLF and VPIRG support a budget for the EEU's that will ramp up to and maintain the acquisition of annual efficiency savings equal to 3% of annual load as modeled in Scenario 3. CLF and VPIRG contend that a budget that will acquire 3% in annual savings compared to annual load is fully justified and will realize the reasonably available cost-effective energy efficiency savings as required under 30 V.S.A. § 209. CLF and VPIRG also support investments in RA R&D with the inclusion of robust behavior measures in order to maximize Vermont's smart grid investments by helping customers use the new data available to reduce energy consumption. Therefore, they recommend that the Board approve the EEU budgets represented under Scenario 3.³⁰

AIV recommends Scenario 1 (level funding with adjustments for inflation) as the most appropriate budget of the three modeled, but would also support consideration of lower budget levels. AIV states that it continues to have concerns with reliance on the EEC to support EEU budgets and that the EEC represents a significant cost to businesses regardless of the potential for

28. VEIC, *Initial Comments on Budget and Savings Recommendations*, May 7, 2014, at 5.

29. Letter from Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated April 16, 2014, at 16-17.

30. Letter from Sandra Levine, Esq., and Ben Walsh, to Susan M. Hudson, Clerk of the Board, dated April 16, 2014, at 1-3.

efficiency improvements. AIV contends that the monetary value of the support Vermont businesses may receive from their EEU budget does not exceed the cost represented by the EEC. AIV also highlights that the spending shortfall associated with VEIC's recent request to carry over unspent funds from 2013 to 2014 is indicative of the need to restrain EEU budgets and develop alternative funding mechanisms to replace the EEC.³¹

C. Reasonably Available Cost-Effective Energy Efficiency Savings

Title 30 § 209(d)(3)(B) requires that the EEU budget "be adjusted as necessary in order to realize all reasonably available, cost-effective efficiency savings."

1. Electric Efficiency Potential Studies

A common way to assess the amount of available cost-effective energy efficiency savings is to conduct an energy efficiency potential study. These studies typically measure energy efficiency potential in one or more of the following ways: technical potential; economic potential; and maximum achievable potential. Technical potential considers what is technically possible from an engineering perspective while disregarding all non-engineering constraints such as cost-effectiveness and real-world adoption barriers (for example, the willingness of end-users to adopt the efficiency measures), non-measure program delivery costs, and programmatic ramp-up. Economic potential refers to a subset of the technical potential that is economically cost-effective with no regard to the gradual ramping up of real-life programs, market barriers, or associated programmatic costs. Maximum achievable potential refers to the amount of energy use that efficiency can realistically be expected to displace assuming the most aggressive program scenario possible and taking into account the real-world adoption barriers, non-measure program delivery costs and programmatic ramp-up. The achievable potential is the maximum achievable potential because the incentives are assumed to be 100% of the measure incremental cost.

An achievable-potential study is a complex undertaking that requires a variety of assumptions including, among other considerations: energy efficiency measure lives, costs and savings; the discount rate for determining the net present value of future savings; projected

31. Letter from William Driscoll, to Susan M. Hudson, Clerk of the Board, dated April 16, 2014, at 1.

penetration rates for energy efficiency measures; projections of electric generation avoided costs for electric capacity and energy; projections of avoided costs for externalities (e.g. carbon); projections of avoided costs for other fuels (e.g. heating oil, natural gas, and propane); and avoided costs for electric transmission and distribution.

In 2013, the Department performed an update to its 2011 Potential Study³². The 2013 Potential Study considered the energy efficiency potential in three areas: statewide, the portion of the state served by Efficiency Vermont, and BED's service territory. The following table summarizes the energy efficiency potential in these three areas as reported in the 2013 Potential Study:

| 2013 Potential Study: Statewide Energy Efficiency Potential <i>% of Projected 2033 MWh Sales</i> | | | |
|--|---------------------|--------------------|------------------------------|
| Territory | Technical Potential | Economic Potential | Maximum Achievable Potential |
| Statewide | 30.0% | 27.7% | 23.4% |
| Efficiency Vermont | 30.2% | 27.8% | 23.5% |
| BED | 28.4% | 26.2% | 23.0% |

Source: Department Study at 4.

The 2013 Potential Study also analyzed the maximum achievable savings potential, as a percentage of forecast MWh sales, for the residential and for the commercial and industrial ("C&I") sectors. For residential projections, the estimates are based primarily on a market penetration scenario that targets the installation of energy efficiency equipment in 80-90% of the remaining eligible market by 2033. If that market penetration can be achieved over the next two decades, the statewide maximum achievable potential electric energy efficiency savings for the residential sector is approximately 723,116 MWh or 29.4% of the projected residential sales.

32. *2013 Vermont Energy Efficiency Potential Study Update Final Report*, GDS Associates, Inc., March, 2014 ("2013 Potential Study"). The report is a limited update of the 2011 Potential Study conducted by GDS Associates, Inc., and includes updated information concerning load forecast, avoided costs, measure lists, and measure characterization including savings, costs, useful lives, residential lighting, and equipment saturation as well as selected refinements to the study methodology. The Vermont Technical Reference User Manual (TRM) Measure Savings Algorithms and Cost Assumptions dated November 4, 2013, was used as the primary data source for measure costs and savings and determining measure lives.

For the C&I sector, assuming a 90% penetration rate for all cost-effective measures can be achieved over the next 20 years, the statewide maximum achievable potential for electric energy efficiency savings is 726,884 MWh or approximately 18.6% of projected MWh sales in 2033.³³

In considering the potential for demand savings, the 2013 Potential Study found that the statewide maximum achievable potential for demand savings for all sectors was 17.8% of the forecasted statewide winter peak, and 18.1 percent of the forecasted statewide summer peak.³⁴ The 2013 Potential Study concluded that there are significant potential net-present-value savings to Vermont ratepayers from the acquisition of the maximum achievable potential — approximately \$4.24 billion (in 2014 dollars) — and that the cost of acquiring the estimated maximum achievable potential over the 20-year study period is approximately \$1.19 billion (in 2014 dollars). This translates to a statewide benefit/cost ratio of 3.6 to 1.³⁵ In other words, for every dollar spent by Vermont ratepayers on energy efficiency programs, approximately \$3.60 of societal benefits accrue. Therefore, based upon the conclusions in the 2013 Potential Study, there is significant achievable potential for electric efficiency savings in Vermont over the next 20 years. No participant has disputed this conclusion.

While the maximum achievable potential for electrical efficiency savings is significant, the 2013 Potential Study notes that the overall estimates in the 2013 Potential Study are slightly less than the efficiency savings potential reported in 2011. The 2013 Potential Study explains the specific differences and factors that account for the lower estimate, including but not limited to: the removal of behavioral savings in the residential sector;³⁶ tightening federal standards for residential technologies; increased market saturation of efficient technologies such as compact

33. 2013 Potential Study at 4.

34. 2013 Potential Study at 4.

35. 2013 Potential Study at 5.

36. In 2011, behavioral program impacts were analyzed and quantified as options that would provide additional savings through conservation above and beyond the savings achieved through the installation of energy efficiency measures. In contrast, the 2013 Potential Study quantified behavioral program savings as a 1% "program lift" to hard-wired measures rather than as potential savings associated with conservation. 2013 Potential Study at 9.

fluorescent lamp ("CFL") bulbs; a reduced fuel-switching market; and reduced net-to-gross assumptions for specialty CFL bulbs in the residential sector.³⁷

VEIC has noted that its own potential study, completed in 2011, estimated a maximum achievable potential of 33.25% in 2031 and that the 2013 Potential Study value as reported for 2033 represents a maximum achievable potential that is 30% less than what VEIC found in its 2011 potential study.³⁸ While acknowledging the significant differences in the methodological approaches between the two studies, VEIC maintains its belief that the approach followed in the 2013 Potential Study undervalues Vermont's maximum achievable potential.³⁹

2. Electric Budget and Savings Scenario Analyses

In September of 2013, the Board directed the participants in this proceeding to analyze the following three electric budget and savings scenarios in this proceeding:

- Scenario 1 – acquisition of all economically achievable potential through level budgets (adjusted for inflation) over twenty years;
- Scenario 2 – acquisition of 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; and
- Scenario 3 – ramp-up to and maintenance of acquisition of 3% savings relative to annual electric energy usage by year 2019.⁴⁰

VEIC and BED submitted modeling scenarios for their respective service territories.⁴¹

The scenarios apply only to electric resource acquisition budgets and savings and assume that no

37. 2013 Potential Study at 35.

38. VEIC, *Initial Comments on Budget and Recommendations*, EEU-2013-01, dated May 7, 2014 at 9.

39. VEIC, *Final Comments on Budget and Savings Recommendations*, EEU-2013-01, dated May 21, 2014 at 1. VEIC's filing included the Department's April 8, 2011, comprehensive summary of the differences in methodology between the 2011 GDS maximum achievable study and VEIC's 2011 maximum achievable study.

40. *Order Determining Electric Resource Acquisition Scenarios To Be Analyzed and Electric and Thermal Energy And Process Fuel Quantitative Performance Indicator Framework*, EEU-2013-01, September 30, 2013 ("September 30 Order") at 1.

41. VEIC *Analysis of Three Electric Energy Efficiency Scenarios for the 2015-2034 Demand Resources Plan*, December 6, 2013 ("VEIC Scenario Analysis"); VEIC *Revised DRP Resources Acquisition Budgets and MWh Savings Estimates*, April 8, 2014 ("VEIC Scenario Analysis Revision"); BED *EEU-2013-01 (EEU Demand Resources Plan) - BED Analysis of Three Electric Energy Efficiency Resource Acquisition Scenarios*, January 9, 2014 ("BED Scenario Analysis"). The VEIC Scenario Analysis Revision addressed the incorrect application of a 2% inflation factor to the 2015-2031 electric budgets for Scenario 1 and Scenario 2 in the VEIC Scenario Analysis.

geographically targeted energy efficiency efforts are included.⁴² The modeling methodology is applied differently depending upon whether it is focused on the residential sector or the C&I sectors. Residential modeling develops a measure-by-measure or "bottom-up" analysis in a variety of program markets. Savings measures are characterized using the TRM and include adjustments over time where appropriate.⁴³ C&I modeling is a "top-down" approach based upon disaggregated energy sales (consumption) which are forecast by building type and end-use. Savings are estimated based upon the percentage reduction expected from the installation of a particular efficiency measure.⁴⁴

In the Residential sector, the VEIC Scenario Analysis reports that baseline savings will be negatively impacted by lighting regulations which are set to take effect in 2020, as well as by the effects of lighting measure market saturation. The adoption of more stringent codes and standards for new appliances and consumer electronics will also impact the savings potential. As a result, VEIC anticipates that increased marketing, customer outreach efforts, and higher incentives will be necessary to achieve savings targets in the years following 2020.⁴⁵

In the C&I sector, VEIC expects that it will become more difficult to obtain future efficiency savings because of increasingly efficient baselines. Whereas in the past, technologies and practices have advanced in concert with these rising baselines, despite technological innovation, VEIC expects that the per-unit cost of achieving savings will rise over time and require more extensive individual measures to be employed.⁴⁶

The VEIC Scenario Analysis included information about the modeling input assumptions which were approved in the September 30 Order.⁴⁷ VEIC worked collaboratively with the

42. VEIC Scenario Analysis, Appendix at 1.

43. VEIC Scenario Analysis, Appendix at 2-3.

44. VEIC Scenario Analysis, Appendix at 3.

45. VEIC Scenario Analysis at 11-12.

46. VEIC Scenario Analysis at 16-17.

47. September 30 Order at 22. Policy assumption categories included: Residential Sector Equity Requirements; Commercial/Industrial Sector Equity Requirements; Low-Income Sector Equity Requirements; and Small Business Sector Equity Requirements. Modeling input assumption categories included: Code Changes for the Commercial

Department and BED in proposing the input assumptions, which are presented in two primary categories: (1) policy assumptions; and (2) model input assumptions.⁴⁸

BED's analysis includes policy and modeling assumptions that were jointly proposed by the Department, VEIC, and BED. However, some assumptions are applied differently for BED based on its service territory, including the Residential sector equity requirements, the C&I sector equity requirements, the low-income sector equity requirements, and the small business sector equity requirements.⁴⁹ BED represents that its service territory has unique features such as a high saturation of natural gas usage for space and domestic hot water heating, a high percentage of residential multi-family rental customers, a high annual residential turnover rate, and a limited single-family new construction market.⁵⁰

Energy Code, the Residential Energy Code, and Stretch Codes; Avoided Costs, Budget Targets, and Inflation; Base Appliance and Equipment Energy Levels, Free-Ridership, Spillover Rates, and Measure Life; and Behavioral Measures, Advanced Metering Infrastructure ("AMI"), and Other New Measures.

48. In comments dated February 10, 2014, the Department recommended that the Board order VEIC to re-run the modeling scenarios without the input assumption that there are savings or costs attributed to non-hard-wired initiatives, a.k.a. behavioral or conservation measures, in the resource acquisition estimated budgets and savings for the three- and twenty-year periods. The Department recommended that the non-hard-wired savings and costs modeled by VEIC instead be re-attributed to installed hardware (hard-wired) measures. Letter from Brian Cotterill and Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated February 10, 2014. By Order dated March 24, 2014, the Board declined to adopt the Department's recommendation.

49. Letter from Chris Burns to Susan M. Hudson, Clerk of the Board, dated January 9, 2014, at 1-2.

50. Letter from Chris Burns to Susan M. Hudson, Clerk of the Board, dated January 9, 2014, at 2.

The results of the analysis of the three scenarios, combined for both residential and C&I sectors, for the 2015-2017 time period are shown in the following table:

| Results of Electric Resource Acquisition Scenario Analyses <i>Costs Shown in Millions of Dollars (Rounded), Annual Savings Shown in Thousands of MWh</i> | | | | | | |
|--|--------------|----------------|--------------|----------------|--------------|----------------|
| | 2015 | | 2016 | | 2017 | |
| Scenario | Costs | Savings | Costs | Savings | Costs | Savings |
| <i>Efficiency Vermont Area (Real 2015 Dollars)</i> | | | | | | |
| Scenario 1 | \$39 | 101 | \$39 | 98 | \$39 | 97 |
| Scenario 2 | \$39 | 101 | \$42 | 103 | \$44 | 105 |
| Scenario 3 | \$52 | 125 | \$59 | 133 | \$67 | 139 |
| <i>BED Area (Nominal Dollars)</i> | | | | | | |
| Scenario 1 | \$2.4 | 6.4 | \$2.4 | 6.4 | \$2.5 | 6.4 |
| Scenario 2 | \$2.4 | 6.8 | \$2.5 | 6.8 | \$2.7 | 6.8 |
| Scenario 3 | \$3.7 | 8.1 | \$4.1 | 8.5 | \$4.7 | 9.1 |

Sources: VEIC Scenario Analysis; VEIC Scenario Analysis Revision; BED Scenario Analysis

3. Discussion

The 2013 Potential Study is helpful in our assessment of the reasonably available cost-effective electric efficiency savings in Vermont. Although the results of the 2013 Potential Study are slightly less than those predicted by the 2011 Potential Study, and also vary significantly from the methodology and results reported by VEIC's potential study conducted in 2011, the differences highlight the difficulty in precisely calculating the achievable potential for energy efficiency savings. After reviewing the 2013 Potential Study, we are persuaded that significant achievable electric efficiency potential continues to exist in Vermont. Additionally, the reasonably available cost-effective electric efficiency potential in Vermont is higher than that which could be acquired by the current electric EEU program budget level.

This conclusion is further supported by the EEU's actual implementation experience. Historically, their levelized costs of energy efficiency have been significantly below what it would cost Vermont electric utilities to supply the same energy and capacity over the average life of the efficiency measures, based on avoided costs at the time the measures were installed. For example, in 2010, Efficiency Vermont supplied electric efficiency at a cost of approximately 4.0 cents per kWh. That figure increased to approximately 4.8 cents per kWh in 2011, and then dropped to approximately 3.5 cents per kWh in 2012.⁵¹ In comparison, it is estimated that it would cost electric utilities 10.8 cents per kWh, 11.2 cents per kWh, and 8.6 cents to supply the same energy and capacity over the average life of the measures installed in 2010, 2011, and 2012, respectively.⁵² These results indicate that additional electric efficiency investments would be cost-effective.

As in the 2011 Potential Study, the 2013 Potential Study assumes that EEU's would pay incentives equal to 100% of the measure cost. In practice, at least in the earlier years of the forecast models, it is not necessary for an EEU to pay such a large incentive and to do so unnecessarily would not be a reasonable use of ratepayer funds. Paying lower incentives results in lower program costs; however, this may also bring about lower participation rates. As noted above, factors including market saturation and the adoption of more progressive codes and standards are predicted to cause the cost of achieving per-unit savings to rise, especially if increased non-incentive costs, such as marketing and education efforts, are necessary to achieve the targeted savings goals.

The estimated savings and budgets contained in the 2013 Potential Study are based upon unconstrained budgets for demand-side-management programs over the 20-year period of 2014-2033. For this reason, the 2013 Potential Study represents a high estimate of the reasonably available, cost-effective electric efficiency savings. While the maximum achievable potential takes into account some of the real-world market and adoption barriers, it does not fully address

51. Efficiency Vermont 2010 Annual Report at 4; Efficiency Vermont 2011 Annual Report at 6; Efficiency Vermont 2012 Annual Report at 4. The calculations for 2010, 2011 and 2012 are based upon savings that have been verified by the Department.

52. Efficiency Vermont 2010 Annual Report at 4; Efficiency Vermont 2011 Annual Report at 6; Efficiency Vermont 2012 Annual Report at 4.

the complexity and lead time necessary to create and design expanded programs and the potential increases in staffing and infrastructure which may be necessary to increase program delivery. Establishing budgets that require rapid increases in spending ignores the significant practical difficulties in ramping up energy efficiency programs.

In considering these factors, the scenario analyses help us assess the reasonably available cost-effective efficiency savings in Vermont. These scenarios do not assume a 100 percent incentive level and provide options for increasing energy efficiency spending at different rates. A comparison of the results of the various scenarios supports our determination that the reasonably available cost-effective electric efficiency savings potential in Vermont is higher than that which could be acquired by the current EEU electric resource acquisition program budgets.

D. Statutory Requirements under 30 V.S.A. § 209(d)(3)(B)

Vermont law sets forth certain standards and criteria that the Board must consider in determining budgets for energy efficiency programs.⁵³ Under 30 V.S.A. §209(d)(3)(B), in establishing the amount of the energy efficiency charge and its allocation, the Board has to determine the appropriate balance among eight stated objectives, with "particular emphasis" given to the first four objectives: (1) reducing the size of future power purchases; (2) reducing the generation of greenhouse gases; (3) limiting the need to upgrade the state's transmission and distribution infrastructure; (4) minimizing the costs of electricity; (5) reducing Vermont's total energy demand, consumption, and expenditures;⁵⁴ (6) providing efficiency and conservation as part of a comprehensive resource-supply strategy; (7) providing the opportunity for all Vermonters to participate in efficiency and conservation programs; and (8) targeting efficiency and conservation efforts to locations, markets, or customers where they may provide the greatest

53. The amount of the energy efficiency charge will be based on the total contribution required from electric ratepayers to fund these budgets for the 2015-2017 period.

54. Public Act No. 184 (2014 Vt., Adj. Sess.) ("Act 184"), effective July 1, 2014, amended Section 209(d)(3)(B) to add this objective.

value.⁵⁵ In addition, 30 V.S.A. §209(f)(14) requires that the Board consider the impact of energy efficiency programs on retail electric rates and bills and the impact on fuel prices and bills.⁵⁶

We discuss each of the 30 V.S.A. §209(d)(3)(B) criteria in turn in this Section III.D., and then discuss the electric rate and bill impacts in Section III.E. below.

Statutory Objectives Given Particular Emphasis

1. Reducing the Size of Future Power Purchases

Energy efficiency measures reduce Vermont's electric demand, thereby allowing Vermont's utilities to purchase less electricity from the regional wholesale market or to sell excess energy into this market. The value of the reductions in demand will depend largely on prices in the regional wholesale market.

The efficiency budgets recommended by the Department are forecast by 2017 to reduce Vermont's annual electric energy demand by 2.25% below what such demand would be without any energy efficiency programs and would put Vermont on a path to an approximately 18% reduction in demand by 2029.⁵⁷ Accordingly, the proposed energy efficiency budgets should have a significant impact in reducing the size of future power purchases (although the state's distribution utilities will continue to have a need for energy beyond that met by current contracted or owned energy sources).

2. Reducing the Generation of Greenhouse Gases

Due to the resource mix of Vermont's utilities, the state's emissions of greenhouse gases from electric generating sources are relatively low; electricity accounts for only a small percentage of the greenhouse gases Vermont emits. Generation sources of greenhouse-gas emissions in Vermont are primarily the fossil-fuel-fired peaking units owned by Vermont utilities. Therefore, reducing greenhouse-gas emissions within Vermont would require targeted energy efficiency aimed at reducing peak loads, thereby reducing the amount of time that fossil-fuel-fired peaking units are required to run.

55. 30 V.S.A. §209(d)(3)(B).

56. 30 V.S.A. §209(f)(14).

57. Department Budget Recommendations (4/16/14) at 22.

However, because Vermont participates in the New England regional power market, Vermont's statewide efficiency investments have an impact throughout the entire region. In the New England region, natural gas-fired plants are typically on the margin; increased energy efficiency investment in Vermont would avoid the emissions produced by the natural gas-fired plant on the margin, wherever the plant is located. In 2012, ISO-NE estimated that a marginal generator in New England emits 899 pounds of CO₂ per MWh.⁵⁸ In its budget recommendations, the Department elaborated on the impact a focus on reducing peak loads can have on greenhouse gas emissions:

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.⁵⁹

In April of 2014, VEIC presented information about the estimated amount of carbon emission reductions resulting from energy efficiency savings under each of the modeled scenarios. According to VEIC's estimates, Scenario 3 would result in 11.8 million metric tons of carbon dioxide equivalent emissions reductions, Scenario 2 would reduce such emissions by 9.0 million metric tons, and Scenario 1 would reduce such emissions by 8.3 million metric tons.⁶⁰ Such emission reductions would bring Vermont somewhat closer to achieving its 2028 goals for greenhouse gas emissions as set forth in 10 V.S.A. § 578.⁶¹ VEIC also notes that

58. Department Budget Recommendations (4/16/14) at 22.

59. Department Budget Recommendations (4/16/14) at 22.

60. VEIC Comments (4/16/14) at 17.

61. Section 578 of Title 10 sets out the state's goals for the reduction of greenhouse gas emissions as follows:
It is the goal of the state to reduce emissions of greenhouse gases from within the geographical boundaries of the state and those emissions outside the boundaries of the state that are caused by the use of energy in Vermont in order to make an appropriate contribution to achieving the regional goals of reducing emissions of greenhouse gases from the 1990 baseline by:
(1) 25 percent by January 1, 2012;
(2) 50 percent by January 1, 2028;
(3) if practicable using reasonable efforts, 75 percent by January 1, 2050.

because these emission reductions are a by-product of cost-effective energy efficiency investments, the incremental costs of such reductions are negative.⁶²

In addition, capacity savings achieved by Efficiency Vermont and BED via electric efficiency investments generate revenues from the FCM. Vermont law requires such revenues to be used to provide TEPF energy-efficiency services to consumers of unregulated fuels.⁶³ Vermont law also requires that net revenues from RGGI be used to provide such services to these consumers.⁶⁴ These programs, which directly reduce oil, propane, kerosene, and wood consumption in Vermont, also directly reduce the generation of greenhouse gases.⁶⁵ The Board observes that, although the state's emissions of greenhouse gases from non-electric sources of TEPF are much higher than the relatively low emissions from electric generation, the budget for energy efficiency programs for unregulated TEPF is constrained and defined by the funding sources for such programs.

3. Deferring Transmission and Distribution Upgrades

The Board has recognized in prior DRP proceedings the role that energy efficiency can play in deferring transmission and distribution upgrades.⁶⁶ When reviewing transmission upgrades, the Board is required by statute to determine whether a proposed project:

is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through energy conservation programs and measures and energy efficiency and load management measures, including but not limited to those developed pursuant to the provisions of sections 209(d), 218c, and 218(b) of this title.⁶⁷

Energy efficiency investments have substantial value in limiting the need for transmission and distribution upgrades. This is true both for non-targeted investments and for investments

62. VEIC Comments (4/16/14) at 17.

63. 30 V.S.A. §209(e)(1)(A). Pursuant to 30 V.S.A. §209(e)(3)(C), "Unregulated fuels" means fuels used by TEPF customers other than electricity and natural gas delivered by a regulated utility.

64. 30 V.S.A. §209(e)(1)(B).

65. Department Budget Recommendations (4/16/14) at 22.

66. EEU-2010-06, Order re Energy Efficiency Utility: Electric Budgets for Demand Resource Plan (8/1/11) at 26.

67. 30 V.S.A. § 248(b)(2).

that are specifically targeted at potential transmission and distribution constraints. After taking into account all energy efficiency investments, Vermont's electric load is expected to be "virtually flat."⁶⁸ In addition, robust energy efficiency programs can delay or avoid transmission and distribution upgrades in those areas of the state in which load and peak-load growth continues to occur. The Board has approved changes to the P&A Document that separate consideration of geotargeting selection areas and budgets from the DRP process.⁶⁹ Accordingly, the budget for geographically-targeted energy efficiency investments to address potential transmission and distribution constraints will not be determined in this proceeding.

In June of 2007, the Board approved a Memorandum of Understanding ("MOU"), arising out of a collaborative process, that established both an integrated least-cost planning process for the Vermont transmission system, and the Vermont System Planning Committee ("VSPC").⁷⁰ The VSPC helps facilitate better cooperation and coordination among utilities in considering both transmission and non-transmission alternatives. In January of 2012, the Board approved a number of modifications to the MOU, including the creation of a new VSPC voting sector for supply and demand resources by designating as voting members the state's electric EEs.⁷¹ As a result, the EEs have the opportunity to participate and assist in planning activities, including a defined role relating to forecasting demand savings.

Vermont ratepayers pay a portion of the costs of transmission investments throughout New England through the ISO-NE Regional Network Service Charge, which is based on monthly peak demand in Vermont. The New England region plans to make approximately \$5 billion of additional transmission investments, so the ability to use energy efficiency investments to reduce Vermont's peak demand in summer and winter could have a significant effect on the costs of these regional transmission investments borne by Vermont. In the QPI proposals the Department

68. Department Budget Recommendations (4/16/14) at 23.

69. EEU-2013-05, Order of 10/4/13 at 4-6 and 10.

70. Docket No. 7081, Order of 6/20/07.

71. Docket No. 7081, Order of 1/30/12 at 5-6.

will make in this proceeding, the Department intends to put increased emphasis on peak load savings to advance this objective.⁷²

4. Minimizing the Costs of Electricity

Power costs are a significant component of Vermont electric utilities' total cost 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 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.

The rate and bill impacts of energy efficiency investments are addressed further in Section IV. E., below.

Other Statutory Objectives under Section 209(d)(3)(B)

5. Reducing Vermont's Total Energy Demand, Consumption, and Expenditures

Section 209(d)(3)(B) was amended, effective July 1, 2014, to add this additional objective to the objectives that the Board must consider in establishing the amount of the energy efficiency charge and its allocation.⁷³ As discussed above with respect to the reduction of future power purchase, the energy efficiency measures contemplated in this proceeding reduce Vermont's electric demand.⁷⁴ This decrease in demand will reduce the total amount and cost of future power purchases. With this reduction in electric demand and in the size and cost of future power purchases, Vermont's total energy demand, consumption, and expenditures will be reduced.

72. Department Budget Recommendations (4/16/14) at 23.

73. Act 184 (relating to the energy efficiency charge), effective July 1, 2014.

74. Act 184 further created a new subsection 209(d)(3)(C), which allows the Board to authorize the use of EEC funds to reduce the use of fossil fuels for space heating by supporting electric technologies, such as air source heat pumps, if, after investigation, the Board finds that, among other things, a net reduction in State energy consumption will result. The Board has not yet performed the investigation required by Section 209(d)(3)(C); therefore, any such energy efficiency measures were not examined in this proceeding.

6. Providing Efficiency and Conservation as a Part of a Comprehensive Resource Supply Strategy

Vermont law has long required electric utilities to include efficiency and conservation as part of their integrated resource plans.⁷⁵ In addition, electric utilities must consider whether the need for new transmission or generation resources can be met more cost-effectively by investment in energy efficiency.⁷⁶

When the EEUs began operation, the Board deemed the EEUs' programs to satisfy the electric utilities' obligations to administer system-wide energy efficiency programs in their service territories. Efficiency Vermont provides information about the results of its activities to electric utilities so that the utilities can incorporate those results into their integrated resource plans. In addition, the EEUs participate in the integrated least-cost planning process for the Vermont transmission system as voting members of the VSPC.

The DRP includes operating assumptions for 20-year electric budgets and savings goals. The inclusion of these assumptions within the DRP is intended to assist distribution utilities, VELCO, the EEUs, and the Department in long-term electricity resource planning.

7. Providing the Opportunity for all Vermonters to Participate in Efficiency and Conservation Programs

In addition to being one of the objectives under Section 209(d)(3)(B) that the Board must balance when establishing the energy efficiency charge, Section 209(f)(1) directs the Board to:

Ensure that all retail consumers, regardless of retail electricity, gas or heating or process fuel provider, will have an opportunity to participate in and benefit from a comprehensive set of cost-effective energy efficiency programs and initiatives designed to overcome barriers to participation.

These statutory requirements regarding distributional equity are more applicable to the policy guidance given by the Board in the design of the EEUs' service offerings, than to the overall EEU budget level. Historically, the Board has sought to balance this statutory objective with the one (discussed below) regarding the targeting of energy efficiency, by ensuring that the

75. See, 30 V.S.A. § 218c.

76. See, 30 V.S.A. § 248(b)(2).

EEUs provide a variety of service offerings so that all Vermont electric ratepayers will continue to have the opportunity to participate in their programs. However, issues related to actual customer participation do have relevance to the overall EEU budgets when considering the rate and bill impacts of energy efficiency investments and are discussed in more detail in Section III.E below.

The EEU Orders of Appointment for VEIC and BED require them to strive to ensure that the benefits of system-wide services, initiatives, and other activities (exclusive of geographically targeted initiatives approved by the Board) generally reflect the level of contribution to EEU costs by ratepayers, as reflected in EEC payments, by customer class (and, in the case of VEIC, by geographic region of the State), unless otherwise determined by the Board.⁷⁷ In addition, the performance mechanism currently in effect for VEIC includes provisions related to equity considerations that require VEIC to provide certain levels of service to residential customers, to low-income customers, to small-business customers, and in each county.⁷⁸ BED's Order of Appointment to serve as an EEU also includes provisions related to equity considerations that require BED to provide certain levels of service to low-income customers and to small-business customers.⁷⁹

a. Sector Equity

Although it is important to maximize the value that can be obtained for Vermont from energy efficiency investments, this desire must be tempered by the statutory requirement that all Vermonters who pay the EEC must have the opportunity to participate in EEU programs. In attempting to achieve the appropriate balance between maximizing value and sector equity, it is necessary to consider both (a) the relative yield rate and net benefits of energy efficiency investments in residential and C&I sectors, including the impacts on capacity, and (b) the effect that an exclusive focus on acquiring the most cost-effective savings could have on the elimination of services to customer groups who are more expensive to serve.

77. Docket No. 7466, *Order of Appointment for VEIC*, Order of 12/20/10 at 5; *Order of Appointment for BED*, Order of 4/19/11 at 5.

78. Docket No. 7466, *Order of Appointment for VEIC*, Order of 12/20/10 at 30-31.

79. Docket No. 7466, *Order of Appointment for BED*, Order of 4/19/11 at Attachment B.

Over time, the Board has relaxed the policy of matching sector benefits with a sector's share of EEC contributions in order to provide an appropriate balance between equity considerations and the desire to obtain the most cost-effective savings, but only if the EEUs are subject to some equity constraints to ensure that all customers who pay the EEC have the opportunity to participate in EEU programs.⁸⁰ The Board received no comments regarding sector equity as part of the DRP's budgeting process this year.

The residential sector currently contributes approximately 48% and 25% of the total EEC for Efficiency Vermont and BED, respectively.⁸¹ In an earlier Order, the Board adopted the recommendations of the Department, VEIC, and BED that scenario modeling for the years 2015, 2016, and 2017 assume that the residential sector resource acquisition spending be 34%, 36%, and 37%, respectively, of total resource acquisition spending for Efficiency Vermont and 25% in all three years for BED, with the level of C&I spending in Efficiency Vermont and BED scenario models assumed to be the complement of the residential percentages.⁸² The Department and VEIC further recommended a gradual ramp-up of the residential sector split used for modeling to achieve sector equity within the 20-year forecast period.⁸³

The Board observes that the Department's 2013 Potential Study concludes that the potential for electric efficiency savings in Vermont by 2033 is almost equally split between the Residential (723,116 MWh) and C&I (726,884 MWh) sectors, with greater cumulative winter and summer MW savings potential in the Residential sector.⁸⁴ However, because of the higher expected cost of efficiency investments in the Residential sector, the societal benefit/cost ratio continues to favor energy efficiency investments in the C&I sector (with a 4.4 to 1 benefit/cost

80. As mentioned above, issues related to actual customer participation have relevance when considering the rate and bill impacts of energy efficiency investments and are discussed in more detail in Section III.E., below.

81. EEU-2013-01, Order of 9/30/13 at 12.

82. EEU-2013-01, Order of 9/30/13 at 12-13 and 22.

83. EEU-2013-01, Order of 9/30/13 at 12.

84. 2013 Potential Study at 35-36.

ratio) rather than in the Residential sector (with a 3.1 to 1 benefit/cost ratio).⁸⁵ To the extent more cost-effective investments are developed over time to achieve energy efficiency savings in the Residential sector, a more aggressive ramp-up of the Residential sector split to achieve sector equity before 2033 may be warranted in the future.

The Board expects that the allocation of resource acquisition spending between sectors for 2015, 2016, and 2017 will generally be consistent with the sector allocations assumed for purposes of the scenario modeling. We also determine today that we will adopt appropriate equity constraints as part of our future decision in this proceeding regarding quantifiable performance indicators. We encourage participants to collaborate on the development of such equity constraints.

b. Low-Income Equity

The EEU's cost per kWh of annual electricity savings from low-income investment is considerably higher than that of investments in other markets because EEUs generally pay for the full cost of low-income measure installation. As a result, the Board has historically included an equity requirement regarding spending on low-income customers to ensure these customers are served.

In the Order of September 30, 2013, in this proceeding, the Department, BED, and VEIC recommended, and the Board adopted, different low-income sector equity requirements for scenario modeling for VEIC and BED. For BED scenario modeling purposes, the level of low-income spending was set at 2.6% of the resource acquisition budget for each scenario. For VEIC scenario modeling purposes, the level of low-income spending was set at a level of 8.9% of the resource acquisition budget for each scenario.

The Board expects that the level of low-income spending included in the DRP budget will generally be consistent with the levels of low-income spending assumed for purposes of the scenario modeling. We also determine today that we will adopt appropriate low-income spending requirements in our Order regarding quantifiable performance indicators. We encourage participants to collaborate on the development of such spending requirements.

85. 2013 Potential Study at 36.

8. Targeting Efficiency and Conservation Efforts to Locations, Markets, or Customers Where They May Provide the Greatest Value

There is significant value in targeting energy efficiency because it is more costly to provide some types of customers with energy efficiency services than others, and because the system benefits of energy efficiency investments in some locations are higher than in others. There are three types of targeting that can be achieved: (1) targeting energy efficiency savings within a geographic area to defer the need for transmission, distribution, and generation infrastructure; (2) achieving peak load reductions by focusing on particular efficiency measures; and (3) providing more funding for those programs that achieve the greatest savings possible for the least amount of investment. As noted above, the identification of areas for the geographic targeting of energy efficiency investments and the related budgets will be determined outside of this DRP budgeting process. Nonetheless, there will likely be substantial overlap among these goals.

E. Rate and Bill Impacts

Under 30 V.S.A. §209(f)(14), the Board is required to consider the impact of energy efficiency programs on retail electric rates and bills. Energy efficiency investments that are cost effective will generally result in higher electric rates but lower average bills.⁸⁶ To understand the effect of energy efficiency programs on customers, it is therefore necessary to look at the impact these programs are projected to have on both electric rates and on electric bills of customers over time.

All retail electric customers in Vermont pay some of the costs of energy efficiency investments through the energy efficiency charge that is a component of their electric rates.⁸⁷ However, these energy efficiency investments also have an effect in reducing, or suppressing increases in, electric rates as the resulting decrease in electricity consumption and electric loads from these investments leads to system-wide benefits accruing to all customers. These system-

86. Department Budget Recommendations (4/16/14) at 3; Synapse Report at 1 and 8.

87. The recipients of the energy efficiency measures and third persons pay the remainder of the costs of those investments.

wide benefits are tied to a utility's avoided costs, especially those related to capacity, transmission and distribution and, to a very limited extent—due to the small size of Vermont's electric demand relative to the regional wholesale market for electricity—demand reduction induced price effect ("DRIPE").⁸⁸ These rate benefits are offset to some extent because reduced electricity consumption also means that there is less revenue to support the recovery of a utility's fixed costs. This decrease in revenue exerts some upward pressure on rates per kWh in order to support a utility's revenue requirement.

Retail electric customers experience most of the direct benefits of energy efficiency programs through lower bills. Through their participation in energy efficiency programs, customers reduce their electricity consumption and costs. Rate impacts from energy efficiency investments will vary among customers based on their utility, customer class, and usage levels; however, any favorable bill impacts from energy efficiency investments will be determined primarily by the extent to which a particular customer participates in energy efficiency programs.

To assist it in its budget recommendations, the Department commissioned Synapse Energy Economics, Inc. ("Synapse") to perform an analysis of the long-term rate and bill impacts of the resource acquisition scenarios modeled by VEIC and BED for the 2015-2034 period. Synapse prepared a report about these rate and bill impacts for the Department, dated April 23, 2014, that was submitted to the Board on May 7, 2014 (the "Synapse Report").

Synapse considered the average rate and bill impacts of the proposed energy efficiency investments for the 2015-2034 period under each scenario on residential, business non-demand, and business demand customers.⁸⁹ The study period used by Synapse for measuring the long-term savings and benefits attributed to energy efficiency investments was 38 years (2015 through 2052) so as to capture more fully the savings of the measures installed in the first 20 years.⁹⁰

88. Synapse Report at 2.

89. The rate and bill impacts were averaged among all customers of the specified types and did not distinguish between participants and non-participants in energy efficiency programs.

90. Synapse Report at 13.

Synapse used a 30-year study period for measuring the long-term rate impacts of the modeled scenarios.⁹¹

The Department maintains that the estimates of rate and bill impacts in the Synapse analysis are reasonable, but that they may somewhat understate the benefits of the proposed energy efficiency investments in terms of both over-estimating the rate impact and under-estimating the bill impact:

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 EEU's in exceeding savings levels modeled in the DRP.⁹²

The Synapse Report acknowledges that some of its bill impact results for business demand customers are “probably due to several simplifying assumptions that were made in [its] analysis, and thus are probably not a good indication of the actual impact on these customers.”⁹³ Due to insufficient information about the decrease in peak consumption of a typical business demand customer that would result from efficiency savings, Synapse did not make any adjustments in such a customer's demand usage resulting from efficiency savings.⁹⁴ In its May 7 comments, VEIC notes the fact 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.”⁹⁵ Based on this, VEIC recommends “disregarding the rate and bill analyses for the business demand customer because it has little or no utility.”⁹⁶

The analyses of the estimated rate and bill impacts described below are based on the average rate and bill impacts for specific types of customers. As discussed above, any individual

91. Synapse Report at 2.

92. Department Budget Recommendations (4/16/14) at 4; *see, also*, Synapse Report at 2-3.

93. Synapse Report at 5.

94. Synapse Report at 26.

95. VEIC Comments (5/7/14) at 8.

96. VEIC Comments (5/7/14) at 8.

customer would likely experience different rate and bill impacts, which could vary significantly from the average results produced by the analyses described below.

1. Analyses of Rate and Bill Impacts of Scenarios in Efficiency Vermont Service Territory

Based on the Synapse study, the Department separately presented the rate and bill impacts of implementing the various scenarios discussed in Section III.C.2., above. Average rate and bill impacts were expressed as differences from what average rates and bills would have been under either a hypothetical scenario involving no new energy efficiency investments or under the Scenario 2 budget. The results of some of the rate-and-bill-impact analyses provided by the Department are described below.

a. Rate Impacts

The Department, using Synapse's rate analysis, provided a chart in its budget recommendations comparing the average rate impact over the next 29 years of each of the three modeled scenarios for three types of customers against a hypothetical scenario in which no new energy efficiency programs are implemented in the future in Efficiency Vermont's service territory. The table below shows the rate impacts on residential customers of the three modeled scenarios for 2015, 2016 and 2017.

| Efficiency Vermont Service Territory | | | |
|---|------------------|------------|-------------------|
| Annual Rate Impacts – Residential Customers | | | |
| <i>Modeled Scenarios Compared to No Efficiency Programs</i> | | | |
| | Scenario 1 (Low) | Scenario 2 | Scenario 3 (High) |
| 2015 | 6.4% | 6.4% | 7.9% |
| 2016 | 6.5% | 6.8% | 8.8% |
| 2017 | 6.4% | 7.0% | 9.6% |

Source: Department Budget Recommendations (4/16/14) at 4.

The rate impacts for residential customers gradually decrease by 2034 to 3.0% under Scenario 1 and to 4.1% under Scenario 2. Under Scenario 3, the average rate impacts rise to

11.0% in 2021 before declining to 5.6% by 2034.⁹⁷ As compared with Scenario 1, Scenario 2 has a relatively small additional rate impact beginning in 2016. Scenario 3 would have a much more significant impact on average rates for residential customers than Scenarios 1 and 2.

Overall, Synapse estimates the average long-term rate impacts for residential customers against the hypothetical scenario of no new energy efficiency programs to be 2.9% under Scenario 2 (which is referred to as the "base case"). Under Synapse's analysis, the average long-term rate impact would be 0.5% less under Scenario 1 as compared with the Scenario 2 base case, and the average long-term rate impact would be 1.8% more under Scenario 3 for residential customers as compared with the Scenario 2 base case.⁹⁸

| Efficiency Vermont Service Territory Annual Rate Impacts – Business Non- Demand Customers <i>Modeled Scenarios Compared to No Efficiency Programs</i> | | | |
|---|------------------|------------|-------------------|
| | Scenario 1 (Low) | Scenario 2 | Scenario 3 (High) |
| 2015 | 4.5% | 4.5% | 5.6% |
| 2016 | 4.4% | 4.6% | 6.0% |
| 2017 | 4.1% | 4.5% | 6.3% |

Source: Department Budget Recommendations (4/16/14) at 4.

The rate impacts for business non-demand customers gradually decrease by 2034 to less than 1% under Scenario 1, to 1.5% under Scenario 2, and to 2.2% under Scenario 3 as compared to the hypothetical scenario of no new efficiency programs.⁹⁹ The differences among the three scenarios in terms of the average rate impact on non-demand business customers are relatively modest, although Scenario 3 would have a more noticeable rate impact as compared to the other two scenarios.

Overall, Synapse estimates the average long-term rate impacts for business non-demand customers against the same hypothetical scenario to be 0.9% under the Scenario 2 base case.

97. Department Budget Recommendations (4/16/14) at 4.

98. Synapse Report at 4-5.

99. Department Budget Recommendations (4/16/14) at 4.

Under Synapse's analysis, the average long-term rate impact would be 0.2% less under Scenario 1 as compared with the Scenario 2 base case for business non-demand customers, and the average long-term rate impact would be 0.9% more under Scenario 3 as compared with the Scenario 2 base case.¹⁰⁰

| Efficiency Vermont Service Territory Annual Rate Impacts – Business Demand Customers <i>Modeled Scenarios Compared to No Efficiency Programs</i> | | | |
|--|------------------|------------|-------------------|
| | Scenario 1 (Low) | Scenario 2 | Scenario 3 (High) |
| 2015 | 4.9% | 4.9% | 6.1% |
| 2016 | 4.6% | 4.8% | 6.3% |
| 2017 | 4.1% | 4.6% | 6.4% |

Source: Department Comments (5/7/14) at 5-6 (Exhibit 2).

The rate impacts for business demand customers gradually decrease by 2034 to 0.5% under Scenario 1, to 1.0% under Scenario 2, and to 1.8% under Scenario 3.¹⁰¹ The differences among the three scenarios in terms of the average rate impact on business demand customers are relatively modest, although Scenario 3 would have a more noticeable rate impact as compared to the other two scenarios.

Overall, Synapse estimates the average long-term rate impacts for business demand customers against the hypothetical scenario of no new energy efficiency programs to be 0.5% under the Scenario 2 base case. Under Synapse's analysis, the average long-term rate impact would be 0.2% less under Scenario 1 as compared with the Scenario 2 base case for business demand customers, and the average long-term rate impact would be 0.8% more under Scenario 3 as compared with the Scenario 2 base case.¹⁰²

100. Synapse Report at 4-5.

101. Department Comments (5/7/14) at 6 (Exhibit 2).

102. Synapse Report at 4-5.

b. Bill Impacts

Based on Synapse's analysis, the Department provided information about the average long-term bill impacts of the three scenarios on residential customers, business non-demand customers, and business demand customers. The Department and Synapse estimated that average bills under Scenario 2 would decrease by nearly 6% for residential customers, about 6% for business non-demand customers and nearly 2% for business demand customers below what such bills would be in the absence of energy efficiency programs.¹⁰³

The Department also compared Scenarios 1 (low budget) and 3 (high budget) against the Scenario 2 base case in terms of the average bill impact on each customer type. As compared with Scenario 2, Scenario 1 would increase the average bill by about half a percentage point for residential customers and less than half a percentage point for business non-demand customers, and would have no additional bill impact on business demand customers. Scenario 3 would result in additional average bill decreases (as compared with Scenario 2) of slightly less than 1% for residential customers and about 1.5% for business non-demand customers. Scenario 3 would result in a very small (less than 0.2%) average bill increase as compared with the Scenario 2 base case for business demand customers.

2. Analyses of Rate and Bill Impacts of Scenarios in BED Service Territory

In its budget recommendations, the Department also separately provided the estimated rate and bill impacts on BED ratepayers of implementing the various scenarios based on Synapse's analysis. Synapse used the same methodology for its BED analysis that it used in its Efficiency Vermont analysis. The following tables and narratives summarize some of the results of this rate-and-bill-impact analysis.

a. Rate Impacts

The Department, using Synapse's rate analysis, provided a chart in its budget recommendations comparing the average rate impact over the next 29 years of the three modeled scenarios for three types of customers against a hypothetical scenario in which no new energy efficiency programs are implemented in the future in BED's service territory.

103. Department Budget Recommendations (4/16/14) at 6; Synapse Report at 5.

| <p align="center">Burlington Electric Department Service Territory</p> <p align="center">Annual Rate Impacts – Residential Customers</p> <p align="center"><i>Modeled Scenarios Compared to No Efficiency Programs</i></p> | | | |
|--|------------------|------------|-------------------|
| | Scenario 1 (Low) | Scenario 2 | Scenario 3 (High) |
| 2015 | 4.9% | 4.9% | 7.4% |
| 2016 | 5.3% | 5.5% | 8.6% |
| 2017 | 5.7% | 6.1% | 10.1% |

Source: Department Budget Recommendations (4/16/14) at 6.

The rate impacts for BED residential customers under Scenario 1 generally decrease after 2017 to 4.4% by 2034 and under Scenario 2 generally decrease from 6.2% after 2019 to 5.6% by 2034. Under Scenario 3, the average rate impacts would rise to a high of 13.4% in 2022 before declining to 8.3% by 2034.¹⁰⁴ As compared with Scenario 1, Scenario 2 has a relatively small additional rate impact beginning in 2016. Scenario 3 would have a much more significant impact on average rates for residential customers than Scenarios 1 and 2.

Overall, Synapse estimates the average long-term rate impacts for BED residential customers against the hypothetical scenario of no new energy efficiency programs to be an increase of 3.4% under the Scenario 2 base case. Under Synapse's analysis, the average long-term rate impact would be 0.5% less under Scenario 1 as compared with the Scenario 2 base case for residential customers, and the average long-term rate impact would be 3.0% more under Scenario 3 as compared with the Scenario 2 base case.¹⁰⁵

104. Department Budget Recommendations (4/16/14) at 6-7.

105. Synapse Report at 6.

| <p align="center">Burlington Electric Department Service Territory Annual Rate Impacts – Business Non-Demand Customers <i>Modeled Scenarios Compared to No Efficiency Programs</i></p> | | | |
|--|------------------|------------|-------------------|
| | Scenario 1 (Low) | Scenario 2 | Scenario 3 (High) |
| 2015 | 4.9% | 4.9% | 7.3% |
| 2016 | 5.3% | 5.5% | 8.5% |
| 2017 | 5.5% | 6.0% | 9.8% |

Source: Department Budget Recommendations (4/16/14) at 6.

The rate impacts for BED business non-demand customers under Scenario 1 generally decrease after 2018 from 5.6% to 4.5% by 2034 and under Scenario 2 generally decrease from 6.1% after 2019 to 5.6% by 2034. Under Scenario 3, the rate impacts would rise to a high of 11.8% in 2019 before declining to 6.7% by 2034.¹⁰⁶ As compared with Scenario 1, Scenario 2 has a relatively small additional rate impact beginning in 2016. Scenario 3 would have a much more significant impact on average rates for business non-demand customers than Scenarios 1 and 2.

Overall, Synapse estimates the average long-term rate impacts for business non-demand customers against the hypothetical scenario of no new energy efficiency programs to be an increase of 3.5% under the Scenario 2 base case. Under Synapse's analysis, the average long-term rate impact would be 0.5% less under Scenario 1 as compared with the Scenario 2 base case for business non-demand customers, and the average long-term rate impact would be 1.9% more under Scenario 3 as compared with the Scenario 2 base case.¹⁰⁷

106. Department Budget Recommendations (4/16/14) at 6-7.

107. Synapse Report at 6.

| Burlington Electric Department Service Territory | | | |
|---|------------------|------------|-------------------|
| Annual Rate Impacts – Business Demand Customers | | | |
| <i>Modeled Scenarios Compared to No Efficiency Programs</i> | | | |
| | Scenario 1 (Low) | Scenario 2 | Scenario 3 (High) |
| 2015 | 3.2% | 3.2% | 4.8% |
| 2016 | 3.3% | 3.4% | 5.4% |
| 2017 | 3.3% | 3.6% | 6.0% |

Source: Department Comments (5/7/14) at 6 (Exhibit 3).

The rate impacts for BED business demand customers decrease by 2034 to 2.5% under Scenario 1 and to 3.3% under Scenario 2. Under Scenario 3, the rate impact increases to 7.3% in 2020 and then declines to 3.3% by 2034.¹⁰⁸ As compared with Scenario 1, Scenario 2 has a relatively small additional rate impact beginning in 2016. Scenario 3 would have a more significant impact on average rates for business demand customers than Scenarios 1 and 2.

Overall, Synapse estimates the average long-term rate impacts for business demand customers against the same hypothetical scenario to be an increase of 1.9% under the Scenario 2 base case. Under Synapse's analysis, the average long-term rate impact would be 0.3% less under Scenario 1 as compared with the Scenario 2 base case for business demand customers, and the average long-term rate impact would be 0.9% more under Scenario 3 as compared with the Scenario 2 base case.¹⁰⁹

b. Bill Impacts

The Department analyzed the average bill impacts of the three scenarios on BED residential customers, business non-demand customers, and business demand customers. It compared the average bill impacts under Scenario 2 as compared with average bills in the absence of energy efficiency programs. It concluded that average bills would decrease by more than 3.5% for residential customers, about 5.5% for business non-demand customers, and slightly

108. Department Comments (5/7/14) at 6 (Exhibit 3).

109. Synapse Report at 6.

more than 4% for business demand customers below what such bills would be in the absence of energy efficiency programs.¹¹⁰

The Department also compared Scenarios 1 (low budget) and 3 (high budget) against Scenario 2 in terms of the average bill impact. As compared with Scenario 2, Scenario 1 would have no impact on the average bill for BED residential customers and would result in a very small increase in average bills (less than 0.2%) for business non-demand customers and business demand customers. Scenario 3 would result in additional average bill decreases (as compared with Scenario 2) of slightly less than 5% for residential customers, approximately 4% for business non-demand customers, and approximately 3% for business demand customers.

3. Discussion

In its recommendations supporting EEU budgets similar to Scenario 2 in both the Efficiency Vermont and BED service territories, the Department expressed the view that such budgets strike a reasonable balance between the immediate rate impacts and the long-term bill impacts of energy efficiency programs.¹¹¹ In its May 7 comments, VEIC recognized that the Department's proposal strikes a reasonable balance among various relevant factors, including "Vermont ratepayers' willingness and abilities to increase efficiency funding and efficiency project participation."¹¹²

CLF and VPIRG maintain that an efficiency budget that ramps up to acquire annual savings equal to 3% of forecasted load is achievable with limited impact on rates and significant bill and societal cost savings, and that the rate impact is fully justified in light of the need to address climate change and volatility of future energy costs.¹¹³ In their support of Scenario 3 budgeting, they note that energy efficiency investments result in other societal benefits that are not reflected in their rate and bill impacts and that these investments continue to return net

110. Department Final Budget Recommendations and Comments (5/21/14) at 2.

111. Department Budget Recommendations (4/16/14) at 6 and 8.

112. VEIC Comments (5/7/14) at 5.

113. CLF/VPIRG Comments (5/21/14) at 1- 2.

societal benefits to costs at a ratio of 2.34 to 1, which, in their view, justifies moderate rate impacts consistent with previous increases in EEC collections.¹¹⁴

AIV did not comment on the rate and bill impacts of any of the modeled scenarios. However, AIV did reiterate its concern with the EEC as the primary funding mechanism for EEU budgets, and its impacts on ratepayers.¹¹⁵

The information presented to us during this process reinforces our long-standing conclusion that the provision of energy efficiency services to Vermont's electricity customers is a cost-effective way of reducing Vermont's overall power costs below what they otherwise would be, thus tempering increases in customers' electric bills. The average long-term bill impacts on Vermonters could arguably support the larger and more aggressive energy efficiency budgets provided in Scenario 3 that are recommended by CLF and VPIRG. However, we are mindful of the quite significant rate impacts the adoption of such budgets would have in the short and intermediate term. Accordingly, we conclude that a budget aligned with Scenario 2 would provide an appropriate balance between the immediate rate impacts and the long-term bill impacts of energy efficiency programs.

As VEIC acknowledges in its support for a Scenario 2 budget, the Board must accord appropriate weight to the willingness and ability of ratepayers to fund energy efficiency investments. We also recognize that all customers are affected by the rate impacts of energy efficiency investments, but that bill impacts vary widely among customers depending on the degree of their participation in energy efficiency programs, which creates issues of customer equity. The bills of customers that do not participate in energy efficiency programs are affected only by the rate impacts, and these non-participating customers will generally experience higher rates, but not lower bills, throughout the 2015-2034 period.¹¹⁶

114. CLF/VPIRG Comments (5/21/14) at 2.

115. AIV Comments (4/16/14).

116. Synapse Report at 8 and 24-25. Efficiency program "non-participants will only experience the higher rates" and not the lower bills that participants experience. Synapse Report at 8.

In terms of customer equity, the Synapse Report emphasizes the importance of gaining a better understanding of the participation rates among eligible customers.¹¹⁷ Synapse notes that Efficiency Vermont's Efficient Products program has the highest cumulative participation rate by far, reaching 100% of eligible customers by 2012. The Business Existing Facilities program reached roughly 31-32% participation for Efficiency Vermont and BED, and the residential existing home program reached roughly 13% participation for Efficiency Vermont and roughly 46% participation for BED.¹¹⁸

The Synapse Report recommends that, going forward, VEIC and BED "collect more information on customers that participate in each of its programs so as to better understand repeat participation."¹¹⁹ Despite cumulative percentage rates reaching 100% in 2012 for Efficiency Vermont's Efficient Products program, Synapse observes that there are probably customers who have not yet been served by such programs as the percentage participation rates reflect repeat participation by some customers.¹²⁰ To the extent there is a large portion of customers who are not being served by energy efficiency programs (even as cumulative participation rates approach 100% of eligible customers), Synapse recommends that Efficiency Vermont and BED consider investigating opportunities for reaching those unserved customers over the long term.

The breadth of customer participation is a key component not only in understanding the implications of rate and bill impacts, but also in building customer support for potentially more aggressive energy efficiency budgets in the future (if such budgets are warranted on balance by the evidence presented in future DRP proceedings). The Board encourages VEIC, BED, and the Department to develop cost-effective methods to better measure participation in energy efficiency programs and specifically to gather information about customers who do not participate in any energy efficiency programs and the reasons for their non-participation so that participation rates and customer equity issues might be better addressed in the future.

117. Synapse Report at 1, 3-4, 7, 29, 61-62.

118. Synapse Report at 61.

119. Synapse Report at 61.

120. Synapse Report at 62.

F. Program Design Issues

1. Resource Acquisition Research and Development

In its December 6, 2013, scenario modeling results and April 16, 2014, initial budget recommendation, VEIC included savings from so-called "behavioral programs" in both the Residential and C&I sectors. These savings would potentially result from energy reporting that would encourage customers to alter their energy consumption behavior.

In its February 10, 2014, comments on the scenario modeling results, the Department expressed concerns regarding what it termed a "fundamental shift in energy efficiency program delivery strategy to include programs that claim savings from measures that are not hard-wired." The Department's concerns appear to have been based on questions regarding the actual savings that could be realized as a result of such programs, and the short-lived nature of such behavioral savings.

Recognizing that the strategies and means of acquiring electric efficiency resources constantly evolve, in its April 16, 2014, budget recommendations, the Department proposed a new budget category for the EEU's – RA R&D – which would allow the EEU's to engage in program delivery strategies that are new to Vermont and that may result in savings, yet would not count any savings in the initial years. In their subsequent comments, VEIC and BED each expressed support for the creation of this new budget category.

Based on the recommendations of the Department, VEIC, and BED, we have decided to establish a new RA budget category – RA R&D. This budget category is intended to allow the EEU's to engage in new initiatives and services that have the potential to deliver cost-effective savings to Vermont customers, but are not yet a proven strategy in Vermont and require additional research, development, implementation, or evaluation and verification experience before cost-effective savings can be claimed by an EEU from such programs. These initiatives and services are distinguished from NRA R&D by the fact that they are expected to deliver savings to Vermont customers, even if such savings are not claimed while in an R&D phase.

It is the Board's expectation that the EEU's will coordinate their RA R&D initiatives with the Department – as they currently do with NRA R&D – and that the RA R&D will have clearly defined research objectives and measurable outcomes. One primary objective shall be the

determination of a program's ability to achieve verifiable savings, and whether those savings are cost-effective. Such RA R&D will be subject to Board approval through the EEU Annual Plan process, and research outcomes will be reported in the Department's annual report on its evaluation activities. We note that the creation of this new budget category is likely to necessitate additional Board process. Accordingly, we will direct Board staff to coordinate with the Department, EEUs, and stakeholders to conduct such additional proceedings as may be necessary to effectuate the timely implementation of the RA R&D budgets established in today's Order.

2. Electric Non-Resource Acquisition

The P&A Document provides that the DRP process shall include consideration of appropriate NRA budgets for the EEUs.

a. Efficiency Vermont

VEIC's NRA proposal includes activities funded by both EEC and TEPF funds. VEIC proposes that the recommended NRA budget be allocated between electric and TEPF activities based on the ratio of the total budgeted EEC and TEPF resource acquisition budgets (88% for electric activities and 12% for TEPF activities). The aspects of VEIC's NRA proposal funded by TEPF funds will be addressed below in the discussion of the TEPF budgets.

VEIC structured its EEC-funded NRA proposal with the following seven categories: (1) Education and Training; (2) Applied Research and Development; (3) Planning and Reporting; (4) Evaluation; (5) Policy and Public Affairs; (6) Information Technology; and (7) General Administration. VEIC's NRA budgets are based on actual 2012 and 2013 spending in each NRA category as well as estimates for costs associated with proposed additional NRA activity. In its proposal, VEIC provided budget estimates and explanations to support the allocation of costs among NRA budget items. VEIC's NRA proposal also identified by NRA category the potential outcomes of its NRA activities.

The Department and VEIC conducted significant and detailed consultations on the EEC-funded tasks and associated budgets that are described in the NRA proposal. As a result of this collaboration, the Department supports the EEC-funded proposal. The Department supports the

identification of potential outcomes because it improves the accountability and transparency associated with the NRA activities and establishes a baseline from which to evaluate progress over the 2015-2017 performance period. No other party filed comments on VEIC's NRA proposal.

We recognize that NRA activities are valuable aspects of energy efficiency service delivery even though the activities may not directly acquire efficiency savings. We find that VEIC's budget assumptions appear to be reasonable. In order to monitor these activities, we direct VEIC to track spending by budget category.¹²¹

We determine that VEIC's total three-year budget for electric-related NRA activities during the 2015-2017 time period shall be approximately \$12,654,800. VEIC's proposal sets forth budget levels for the 2015-2017 performance period for each of the seven categories. We conclude that the NRA budgets proposed by VEIC are reasonable and we approve the electric NRA budgets as set forth below.

Efficiency Vermont EEC-Funded NRA Budgets by Category

| Budget Categories | 2015-2017 dollar amount |
|----------------------------------|--------------------------------|
| Education and Training | \$2,256,760 |
| Applied Research and Development | \$1,087,328 |
| Planning and Reporting | \$1,457,104 |
| Evaluation | \$2,369,928 |
| Policy and Public Affairs | \$1,327,832 |
| Information Technology | \$3,451,800 |
| General Administration | \$704,000 |
| Total | \$12,654,752 |

The P&A Document requires the EEUs to propose electric NRA budgets for three- and 20-year periods and TEPF NRA budgets for three- and ten-year periods. VEIC has proposed annual NRA budgets for the 20-year period in which 88% of the funds are allocated for electric

¹²¹. Section III.7 of VEIC's Order of Appointment governs the potential transfer of funds among these seven NRA budget categories. Docket No. 7466, *Order of Appointment for VEIC*, Order of 12/20/10 at 10.

activities and 12% for TEPF activities. For the last ten years (2025-2034), VEIC proposes that the entire NRA budget be allocated for electric-efficiency activities. The Department supports the proposed NRA budgets for the 20-year period with the 88% to 12% allocation. For the last ten years, the Department recommends that TEPF NRA budgets be established rather than allocating the entire NRA budget to electric-efficiency activities as VEIC proposes.

We conclude that the 20-year NRA budgets proposed by VEIC are reasonable and should be established by allocating between electric and TEPF activities based on the ratio of the total budgeted EEC and TEPF resource acquisition budgets (88% for electric activities and 12% for TEPF activities). For the last ten years of the 20-year budget period, we determine that the NRA budget will include only electric activities, funded at 88% of the NRA budget allocation. Establishing an EEC-funded NRA budget across 20 years and a TEPF NRA budget across 10 years is consistent with the P&A Document. The NRA budgets for the 2015-2034 period are contained in Appendix A to this Order.

b. BED

BED's NRA proposal includes activities funded by both EEC and TEPF funds. The aspects of BED's NRA proposal funded by TEPF funds will be addressed below in the discussion of the TEPF budgets.

BED structured its EEC-funded NRA proposal with the following eight categories: (1) Education and Training; (2) Smart Grid and AMI; (3) Applied Research and Development; (4) Planning and Reporting; (5) Evaluation; (6) Policy and Public Affairs; (7) Information Technology; and (8) General Administration. BED's NRA proposal also identified by NRA category the potential outcomes of its NRA activities.

BED states that it worked with the Department on the development of the NRA budget. As a result of this collaboration, the Department supports the EEC-funded NRA proposal. The Department supports the identification of potential outcomes because it improves the accountability and transparency associated with the NRA activities and establishes a baseline from which to evaluate progress over the 2015-2017 performance period. No other party filed comments on BED's NRA proposal.

We find that BED's budget assumptions appear to be reasonable and as with VEIC, we direct BED to track spending on these activities by budget category.¹²²

We determine that BED's total three-year budget for electric-related NRA activities will be approximately \$624,576 for the 2015-2017 performance period. BED's proposal sets forth budget levels for the 2015-2017 performance period for each of the eight categories. We conclude that the NRA budgets proposed by BED are reasonable and we approve the electric NRA budgets as set forth below.

BED EEC-Funded NRA Budgets by Category

| Budget Categories | 2015-2017 dollar amount |
|-----------------------------------|--------------------------------|
| Education and Training | \$126,876 |
| Smart Grid and AMI* | \$62,700 |
| Applied Research and Development* | \$56,700 |
| Planning and Reporting | \$126,600 |
| Evaluation | \$54,300 |
| Policy and Public Affairs | \$44,400 |
| Information Technology | \$75,000 |
| General Administration | \$78,000 |
| Total | \$624,576 |

*These amounts have been adjusted to reflect BED's proposal to move certain of these activities to the RA R&D budget.

We conclude that the 20-year EEC-funded NRA budgets proposed by BED are reasonable. The NRA budgets for the 2015-2034 period are contained in Appendix A to this Order.

122. Section III.4 of BED's Order of Appointment governs the potential transfer of funds among these eight NRA budget categories. Docket No. 7466, *Order of Appointment for BED*, Order of 4/19/11 at 8.

3. Department Evaluation Plan and Budget

The P&A document states that the DRP shall include budgets to support the Department's evaluation of the EEU's. The Department's proposed Evaluation Plan includes activities and budgets funded by both EEC and TEPF funds.¹²³

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 an FCM-funded evaluation budget of \$1,882,000.¹²⁴ The Department states that its proposed EEC-funded budget has increased relative to the 2012-2014 performance period due to: (1) increasing evaluation contractor costs; (2) the addition of a more robust plan to evaluate and verify R&D initiatives related to behavior and other smart grid programs; and (3) the inclusion of evaluation plans associated with the EEU's Overall Performance Assessment. With regard to TEPF-funded evaluation activities, the Department newly proposes to conduct a potential study for TEPF activities.

The Department proposes to combine the Savings Verification process with the FCM evaluation as a way to reduce evaluation costs while also increasing the level of rigor of the overall evaluation of the savings claim being measured. This has already occurred for BED evaluation activities. The Department represents that it is in the process of developing a request for proposals for an independent third party review of both the Savings Verification process and the FCM evaluations.

VEIC generally supports the Department's Evaluation Plan. VEIC recommends that the Department's annual reporting on EEU evaluation activities include reporting on benchmarking data. VEIC also recommends that the benchmarking be expanded to include the EEU's TEPF performance. VEIC raises concerns that the budget for the behavior and smart grid R&D

123. Some of the activities described in the Evaluation Plan include those associated with the GMP Community Energy and Efficiency Development ("CEED") Fund, which are funded by the CEED Fund. In Docket 7770, the Board approved the merger of GMP and Central Vermont Public Service Corporation ("CVPS") (along with related transactions), with GMP as the surviving entity. Docket 7770 established the CEED Fund under which GMP would invest approximately \$20.9 million in energy efficiency programs (including thermal efficiency), renewable and clean energy programs, other demand resources, and innovative technologies in the legacy CVPS service territory.

124. Pursuant to the Board's Order of May 25, 2011, Order in EEU-2010-06, the Department is responsible for conducting FCM evaluation activities which are required by ISO-NE.

evaluation activities may be too high for the three-year performance period (\$784,100 or approximately 15% of evaluation budget). In addition, VEIC supports the proposal to combine the Savings Verification process with the FCM evaluation.

No other party filed comments on the Department's Evaluation Plan.

We find the Department's evaluation proposal to be a reasonable approach. Accordingly, the Evaluation Plan and associated three-year budget of \$5,004,000 is approved. While VEIC has raised concerns about the portion of the evaluation budget addressing R&D initiatives related to behavior and other smart grid programs, we are persuaded that the Department has provided a reasonable budget estimate of these evaluation activities, especially given that they represent new evaluation activities. We also recognize that there is process in place for addressing unspent evaluation funds in the event that Department requires less funds to conduct these evaluation activities.¹²⁵

As recommended by VEIC, we require that the Department's annual reporting on EEU evaluation activities include reporting on benchmarking data. We also require benchmarking to be expanded to include the EEU's TEPF performance, and that such funding be reasonably allocated between the EEC- and TEPF-funding sources.

We agree that combining the Savings Verification process with the FCM evaluation will reduce evaluation costs while also increasing the level of rigor of the overall savings evaluation. Therefore, we require, by October 1, 2014, that VEIC, in consultation with the Department, file a proposed process and schedule to meet the goal of a combined Savings Verification and FCM evaluation process by the end of 2015.

Because EEC rates are set separately for BED customers than for customers in the rest of the state, it is also necessary to determine what portion of the Department's EEC-funded evaluation costs will be paid for by BED customers. The Department recommends that BED customers pay a percentage of the Department's overall costs of evaluating the EEU program,

125. Historically, at the end of every three-year performance period, the Board has determined the amount of unspent funds in the EEU Fund (including funds collected via the EEC and interest earned on the Fund) and how those monies will be used (subject to certain parameters set forth in PSB Rule 5.300). The Board intends to continue this practice. Therefore, if further efficiencies lead to any unspent electric evaluation funds from the 2015-2017 time period, the Board will determine how these funds will be used at the same time that it addresses any other unspent funds in the EEU Fund.

except for expenses related to geographic targeting and energy savings account and customer credit program customers. We determine that BED customers should pay \$208,936 of the Department's EEC-funded evaluation costs during the 2015-2017 performance period.¹²⁶

4. VEIC Compensation Structure

As set forth in Section III of VEIC's Order of Appointment, VEIC's compensation is comprised of three components: (1) reimbursement of actual incurred costs for both RA and NRA activities; (2) performance compensation to be paid based on the attainment of QPIs that are established as part of the DRP process; and (3) operations fees that may be charged as a percentage of all or a portion of reimbursed costs, on both RA and NRA activities.

As part of the DRP process, participants were requested to file their recommendations regarding the appropriate set-aside of the Efficiency Vermont budget to provide both the performance compensation and operations fee for VEIC. On April 16, 2014, VEIC filed its recommendation regarding the amount of the set-aside for a performance award and for an operations fee. VEIC filed additional reply comments on May 7, 2014, and in response to questions raised at the May 15 budget workshop, VEIC filed supplemental comments on May 21, 2014, to substantiate its compensation proposal. Likewise, the Department filed its recommendations, comments, and reply comments on the same dates. None of the other participants filed comments concerning the issue of compensation.

For the 2015-2017 Performance Period, VEIC proposes an increase in the compensation rate from the current 4.1% to 5%, and to equally distribute compensation on a 50/50 basis between operations fee and performance award as opposed to the current 40/60 split.¹²⁷ In addition, VEIC recommends that the calculation method for the compensation rate continue to be

126. This amount is calculated by subtracting evaluation costs related to geographic targeting and energy savings accounts and the customer credit program from the Department's evaluation budget for the 2015-2017 performance period, and multiplying the result by 5.6 percent, which is BED's share of Efficiency Vermont's and BED's budgets for electric resource-acquisition, non-resource-acquisition, and compensation (in other words, all items other than Department evaluation costs and fiscal agent and related costs).

127. VEIC originally proposed a compensation rate of 6% for both Budget Scenario 1 and Budget Scenario 2; however, upon further discussions with the Department, VEIC decided to withdraw its original proposal. Initial Comments on Budget and Recommendations, VEIC, May 7, 2014, at 22.

based on a "margin" approach (used to set the compensation rate for the 2012-2014 performance period) which is based on the total percentage of compensation above cost, as opposed to a "mark-up" rate as a percentage of the total program cost as recommended by the Department.¹²⁸ VEIC bases its proposed 50/50 split between the operations fee and the performance award on its projected need to enhance short-term cash flow due to increased payment processing, and the corresponding need to acquire additional short-term debt capacity, under the expanded requirements of the Efficiency Vermont budgets.¹²⁹ By implementing these modifications, VEIC argues that its compensation for the 2015-2017 period will more closely reflect a fair market return for its services.

In support of its proposal, VEIC cites the following factors:

1. VEIC researched 15 states comprising 37 similar energy efficiency program administrators nationwide and compared above-cost compensation as a percentage of the annual budget.¹³⁰ Across the sample, the compensation rate ranged from 2.6% to 29%, with a median of 7.6%. For the New England states in the sample, the median percentage for compensation is 5.4%. Based on this comparison, VEIC believes that a 5% compensation rate is reasonable.¹³¹
2. The growing number of QPIs and the increased difficulty in achieving the minimum threshold for each QPI will impact compensation. VEIC expects the financial weighting of the QPIs will be modified for the 2015-2017 performance period relative to

128. Letter from Michael Wickenden, to Susan M. Hudson, Clerk of the Board, dated May 21, 2014, at 7; tr. 5/15/14 at 75-76 (Cawley), 86-87 (Wickenden); letter from Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated May 21, 2014, at 7.

129. Tr. 5/15/14 at 109-111 (Cawley).

130. For the purposes of its comparables analysis, VEIC broke down the sample into five categories: (i) regulated investor-owned utilities; (ii) for-profit entities; (iii) nonprofit entities; (iv) municipals and cooperatives; and (v) government or quasi-governmental entities. VEIC excluded categories (iv) and (v) because of inherent differences between business and economic models as compared with VEIC. VEIC then separated the remaining categories according to business model type, that is, either "Administration Only" or "Administration and Implementation." VEIC categorizes itself as Administration and Implementation. VEIC, *Compensation Structure*, April 16, 2014, at 7.

131. VEIC, *Compensation Structure*, April 16, 2014, at 7-10.

the weighting of the 2012-2014 performance period, but the magnitude and extent of those adjustments are not known.¹³²

3. The potential for larger budgets will require VEIC to maintain larger cash balances and larger lines of credit to meet expenditures. VEIC expects this turn of events may place monthly strains on its cash flow. The only source of cash on hand to support Efficiency Vermont's line of credit is VEIC's above-cost compensation. Because VEIC's borrowing capacity is predicated on its cash position,¹³³ VEIC believes that without additional compensation its ability to maintain adequate lines of credit may be put at risk.¹³⁴

4. Continued uncertainty and market fluctuations in the post-2008 economy will continue to impact VEIC's performance. Based on VEIC's recent experience, economic downturns stifle market activity, resulting in suppressed compensation. Conversely, upswings increase consumer spending and deplete cash reserves by requiring greater payouts.¹³⁵

5. VEIC strives to maintain competitive labor rates to recruit and keep a high performing labor force, and dedicates a portion of its compensation to provide incentive bonuses for its staff. The potential for scaling up program impacts in a manner consistent with meeting the State's energy goals and adhering to its policies will increase the need for qualified staff and greater staff retention.¹³⁶

132. *Id.* at 10. VEIC also requests that it be allowed to discuss with the Board any changes to risks associated with changes in compensation structure, and that it be allowed to request that the Board reconsider compensation rates once the QPIs are established.

133. VEIC's existing \$6.9 million line of credit is formula-based, meaning that VEIC can only borrow up to 80% of its total receivables aged no greater than 60 days. Due to this limitation, VEIC states that it often has to float some of its own cash reserves in order to ensure payment of monthly program expenses. Letter from Michael Wickenden, to Susan M. Hudson, Clerk of the Board, dated May 21, 2014, at 8.

134. VEIC, *Compensation Structure*, April 16, 2014, at 13; letter from Michael Wickenden, to Susan M. Hudson, Clerk of the Board, dated May 21, 2014, at 8.

135. VEIC, *Compensation Structure*, April 16, 2014, at 13.

136. *Id.*

6. Historically, VEIC management has, at times, put compensation at risk to direct staff to innovate and expand the scope of Efficiency Vermont's activities for the benefit of ratepayers. The evolving nature of energy efficiency and Vermont's policies concerning the expansion of renewable energy will require additional investments in continuing innovation at the EEU.¹³⁷

7. The complexity of processes required to serve customers has increased as the historical focus on electrical efficiency has now expanded to include all-fuels efficiency. This complexity adds to costs and leads to increased investments so that efficiency savings can be realized.¹³⁸

8. VEIC contends that as budgets and the scope of the program expands the costs associated with regulatory risk will increase in the following areas: (i) annual savings verifications and impact on QPIs; (ii) certain regulatory requirements perceived as overly intrusive by customers (for example, AMI); (iii) regulatory treatment of large customers and the growing trend toward customized approaches to energy efficiency; (iv) uncertainty of the regulatory review process in terms of launching new initiatives and innovations; (v) the potential for penalties coupled with more stringent requirements related to participation in the FCM; (vi) evolution of electric technologies which necessitate coordination between electric utilities and EEUs; and (vii) changes in regulatory and/or legislative priorities.¹³⁹

Lastly, VEIC maintains that its efforts through the operation of Efficiency Vermont have provided customer and regulatory value over a long sequence of prior performance periods. VEIC contends that Vermont's markets have been successfully transformed to higher levels of efficiency and participating consumers have experienced higher levels of savings. Moreover, VEIC argues that as a result of its enhancement of the Efficiency Vermont brand throughout

137. *Id.* at 14.

138. *Id.* at 14-15.

139. *Id.* at 15-18.

Vermont, VEIC has become a resource in Vermont's business development efforts and in many of the state's energy efficiency initiatives.¹⁴⁰

The Department recommends that VEIC's compensation be set at 4.1% on a mark-up basis for the 2015-2017 period, and argues that this level continues to provide a strong incentive for VEIC to meet its performance targets.¹⁴¹ The Department believes that the level of compensation should strike a balance between what is reasonable and fair for VEIC and what is reasonable and fair from the viewpoint of the ratepayer. Accordingly, the Department argues that it is important to look at the issue of compensation in terms of absolute dollars. The dollar amount of compensation proposed by VEIC is approximately \$8,649,715.¹⁴² Under the Department's recommendation, and as a result of the proposed increase in the 2015-2017 budget for Scenario 2, the Department represents that VEIC's compensation will increase by approximately 22% (relative to the 2012-2014 period) to \$6,732,738. The Department views this as a significant increase in compensation and argues that the increase is fair and reasonable for VEIC and is also a fair and reasonable amount for the ratepayers to bear. Moreover, the Department observes that if VEIC's recommended compensation were used as an input for rate and bill impact analysis in Scenario 2, the rate impacts would be much greater. Consequently, the Department does not support VEIC's compensation proposal for the 2015-2017 performance period.¹⁴³

The Department also questions the relevance of the analysis performed by VEIC concerning other energy efficiency providers in other states. The Department commissioned its own research with the similar goal of identifying a select peer group of providers for the purpose of conducting a comparative analysis of compensation structures relative to VEIC's. Considerations of regulatory framework, lost revenue provisions, and organizational structure were determined by the Department to be important factors to include in formulating

140. *Id.* at 18-19.

141. Letter from Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated May 21, 2014, at 7.

142. VEIC, *Corrected Budgets Update*, 5/22/14.

143. Letter from Jeanne Elias, Esq., Susan M. Hudson, Clerk of the Board, dated April 16, 2014, at 14-15.

representative benchmarking for energy efficiency administrators most comparable to VEIC/Efficiency Vermont. Key findings from the Department's analysis included: (i) the unique overall structure of VEIC/Efficiency Vermont made it difficult to find a truly comparable entity; (ii) investor-owned utilities were not an appropriate organization type for comparison to VEIC/Efficiency Vermont due to significant differences in regulatory framework; and (iii) VEIC was the only program administrator to receive performance compensation. As a result, the Department finds that there are no other entities whose services and programs are truly comparable to those of VEIC/Efficiency Vermont, and recommends that the Board place greater weight on VEIC's historic compensation rates and absolute dollar amounts in establishing the rate for the 2015-2017 period.¹⁴⁴

In addition, the Department disputes VEIC's claim that an increase in the budget along with an increase in the scope of work performed by VEIC will, without increased compensation, put pressure on already strained cash flows and VEIC's ability to maintain adequate lines of credit. The Department contends that VEIC is not presently experiencing cash flow issues and is capable of managing cash flow under the current operations fee rate. The Department also argues that VEIC presented no evidence to suggest that it would experience difficulty in obtaining sufficient lines of credit or that maintaining the current operations fee would result in reduced access to capital or reduced lines of credit for VEIC. At the current rate of compensation, the Department argues that VEIC will still be able to leverage its Vermont brand and bring additional value to Vermont from its presence and involvement in other markets.¹⁴⁵ Thus, the Department does not find justification for altering total compensation associated with the operations fee from the current level of 40% to 50% as recommended by VEIC.

Lastly, the Department argues that consideration of VEIC's proposal to modify the percentage breakout between the operations fee and the performance award from the current 40/60% split to a 50/50% split should be negotiated with VEIC as part of the QPI-setting process outlined in the next phase of the DRP. The Department believes that this allocation is an

144. Letter from Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated May 7, 2014, at 2; tr. 5/15/14 (Cotterill) at 129-130.

145. Letter from Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated May 21, 2014, at 7.

important factor in determining the appropriate level of performance risk associated with the QPIs. Consequently, the Department argues that leaving the issue of the split undecided until the setting of the QPIs will allow the Department and VEIC to negotiate the performance incentive amount that is at risk as a performance award and consequently the dollar amount that is guaranteed as an operations fee. In the alternative, if the Board decides that it is more appropriate to determine the percent split when establishing VEIC's budget, the Department recommends that the current split remain in effect. When negotiating the QPIs, the Department will attempt to strike a balance between the performance risk associated with the predicted difficulty of achieving the QPIs and the amount of performance compensation at risk. If the Board decides that an increase in the operations fee component of total compensation is warranted, effectively lowering VEIC's financial risk, then the Department may propose to balance that reduction by increasing the stringency of its proposed QPIs.¹⁴⁶

The Department also proposes that the compensation rate should be based on a mark-up rate as a percentage of the total program budget above costs (whereby the program budget is defined as total VEIC resource acquisition and non-resource acquisition budgets) as opposed to the margin approach favored by VEIC (used to set the compensation rate for the 2012-2014 performance period). Consequently, the Department proposes to calculate the compensation rate according to the following mark-up formula:¹⁴⁷

$$\text{Dollar Compensation} = (RA + NRA) \times \text{Rate}$$

Where:

RA = Total Resource Acquisition Budget

NRA = Total Non-Resource Acquisition Budget

Rate = Compensation Rate (as a percentage)

Discussion

Based on the foregoing, we conclude that an increase in compensation for VEIC is warranted. Although the current compensation structure (4.1% on a margin basis) has provided

146. *Id.* at 7-8.

147. Letter from Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated May 7, 2014, at 3.

VEIC with a strong incentive to meet its performance targets, while providing benefits and value to ratepayers in the form of improved efficiency, we are persuaded that the expansion of responsibilities and the scope of work expected for VEIC in the upcoming 2015-2017 Performance Period will ultimately lead to some increases in implementation costs for VEIC. Further, the evolving nature of the energy efficiency marketplace will require VEIC to continue to make investments in innovation and research in order to maintain a high level of energy efficiency services and products for Vermont consumers. We are also cognizant of the fact that since our approval of the last budget in 2011, VEIC remains at the bottom of the range of compensation paid for efficiency program administrators in other jurisdictions, especially in New England, leading us to conclude that there is some room for adjustment in compensation given the value-added services that VEIC has provided and continues to provide for Vermont.

For the reasons VEIC outlines above, VEIC believes that a compensation rate of 5% on a margin basis is fair and reasonable. The Department counters that VEIC can still experience an increase in the dollar amount of compensation at a rate of 4.1% on mark-up basis (which equates to a 3.94% margin rate) as a result of the proposed dollar amount increase in the budget. Given this range of reasonableness provided by the two participants, and the substantial amount of evidence in the record, we conclude that an increase in the rate of compensation to 4.5% on a mark-up basis is reasonable and appropriate. (This equates to a 4.3% margin rate.) The increase will improve the financial stability of VEIC/Efficiency Vermont and facilitate its ability to meet its expanded responsibilities for the 2015-2017 Performance Period, thereby benefitting ratepayers. We also adopt the Department's recommendation that the method for calculating the compensation rate will be the mark-up approach going forward, effectively replacing the current margin approach calculation.

We further conclude that the percentage breakout between the operations fee and the performance award should be maintained at the current 40/60 split. We are persuaded that the increase in program budgets, plus the increase in the rate of compensation, should be sufficient to ensure that VEIC will be able to adequately manage its cash flows and maintain a sufficient line of credit to meet its working capital needs.

Therefore, we determine that the following is appropriate: (1) a compensation set-aside for services of 4.5 percent; (2) the use of 60 percent of that amount for a performance award; and (3) the use of 40 percent of that amount for the operations fee. Under the budgets we establish for Efficiency Vermont in this Order, the compensation set-aside will be approximately \$7,404,470 over the 2015-2017 time period. This amount includes \$2,961,788 in operations fees and \$4,442,682 for performance-based compensation.

5. Fiscal Agent and Related Costs

The Department's budget recommendations include annual amounts for the costs of the fiscal agent and for the independent audit of the EEU Fund. Their proposed amounts for the 2015-2017 time period are shown in the following table.

| Recommendations for Fiscal Agent and Related Costs | | | |
|---|----------|----------|----------|
| | 2015 | 2016 | 2017 |
| Fiscal Agent | \$33,244 | \$33,244 | \$33,244 |
| EEU Fund Audit | \$19,946 | \$19,946 | \$19,946 |

VEIC and BED supported these recommendations. No other party filed comments on the recommendation for the budgets for the fiscal agent and for the independent audit of the EEU Fund.

We find the recommendation for the budgets of the fiscal agent and for the independent audit of the EEU Fund to be reasonable. However, given that the EEU Fund includes both EEC and TEPF funds, we conclude that the budgets should be established by allocating between electric and TEPF activities based on the ratio of the total budgeted EEC and TEPF RA and NRA budgets. Accordingly, we determine that the budgets for fiscal agent and EEU Fund Audit costs shall be as shown in Appendix A to this Order. These budgets have been determined based on the EEC and TEPF proportions of the overall budgets.

Because EEC rates are set separately for BED customers than for customers in the rest of the state, it is also necessary to determine what portion of the fiscal agent and EEU Fund Audit costs will be paid for by BED customers. In the past, BED customers have paid for a percentage of these costs. Consistent with this practice, we determine that BED customers should pay

\$5,278 in fiscal agent costs and \$3,167 in EEU Fund Audit costs during the 2015-2017 time period.¹⁴⁸

6. Alternative Funding Mechanisms

AIV stated that it is important to continue to consider the development of alternative funding mechanisms to replace the EEC in whole or in part. AIV contends that developing alternative funding mechanisms is a subject that the Board should explore with the Department and other stakeholders to benefit ratepayers and to potentially resolve a number of concerns with increasing EEU budgets.¹⁴⁹

We observe that AIV made a very similar recommendation in the last DRP proceeding.¹⁵⁰ No other participant in this proceeding commented on the development of alternative funding mechanisms. In EEU-2010-06 we decided not to open a generic investigation into financing options for the EEU budget, based on an analysis performed by VEIC that indicated that the differences between expensing and financing and amortizing the EEU budget are small, especially when levelized over time.¹⁵¹ We observe that the General Assembly has directed that an investigation be performed into the competitiveness of Vermont's industrial and manufacturing businesses with regard to electricity costs, and that this investigation will consider potential changes to the EEU programs established under 30 V.S.A. § 209, including their delivery, funding, financing, and participation requirements.¹⁵² We conclude that AIV's concerns regarding the EEC and consideration of alternative funding mechanisms will be best addressed in that investigation.

148. These amounts are calculated by multiplying the 2015-2017 budgets for the fiscal agent and the EEU Fund Audit by 5.5 percent, which is BED's share of Efficiency Vermont's and BED's budgets for electric RA, NRA, and compensation (in other words, all items other than Department evaluation costs and fiscal agent and related costs).

149. AIV Comments of 4/16/14.

150. See EEU-2010-06, Order of 8/1/11 at 63.

151. EEU-2010-06, Order of 8/1/11 at 64-65.

152. See Public Act No. 199 (2014 Vt. Adj. Sess.), Section 13.

G. EEU Electric Budget Determination

For 23 years, Vermont law has required electric and gas utilities to consider energy efficiency along with generation, transmission, and distribution options when determining how they can provide least-cost service to their customers.¹⁵³ This law recognizes that implementing energy efficiency, when it is cost-effective, results in total utility costs that are lower than they otherwise would be.

Since March 2000, Efficiency Vermont (rather than individual electric utilities) has delivered system-wide electric efficiency programs.¹⁵⁴ This change in implementation did not, however, change the underlying economics. The EEUs' implementation of cost-effective energy efficiency still results in total electric costs (including the EEUs' costs) that are lower than they otherwise would be. For example, in 2013, Efficiency Vermont supplied electric efficiency at approximately 4.1 cents per kWh, compared to the comparable cost of electric supply at 8.4 cents per kWh, and a blended average utility rate of approximately 13 cents per kWh.¹⁵⁵ Similarly, BED's cost for saved energy was approximately 2.8 cents per annualized kWh.¹⁵⁶

Lower total electric costs for desired levels of electric service benefit all Vermonters, and thus it is important for electric utilities, state policymakers, and regulators to take all appropriate

153. *See*, 30 V.S.A. § 218c.

154. BED is an exception to this statement. Consistent with the Board-approved settlement that created the EEU program, BED filed a proposal in 1999 to deliver most of the EEU's system-wide energy efficiency programs in its service territory. In light of BED's experience in delivering energy efficiency programs and its desire to continue to serve its customers in this manner, the Board approved BED's proposal with the requirement that BED work closely with Efficiency Vermont to ensure that the same energy efficiency services were offered to all Vermonters. Every three years since then (matching the three-year contract cycle with the entity serving as Efficiency Vermont) the Board re-evaluated whether BED should continue to deliver most of the EEU's system-wide energy efficiency programs in its service territory. In 2011, after conducting a comprehensive Initial Overall Performance Assessment of BED, the Board issued BED an Order of Appointment to serve as an EEU through December 31, 2021.

155. Efficiency Vermont 2013 Savings Claim Summary, April 1, 2014, at 17. While Efficiency Vermont's actual 2013 savings have not yet been finalized, based on past experience these approximate figures are unlikely to change materially. Further, they are intended to show the relative costs of efficiency versus comparable electric costs, rather than absolute costs.

156. Burlington Electric Department 2013 Energy Efficiency Annual Report, at 4.

steps to lower these costs.¹⁵⁷ One such step is to acquire all reasonably available, cost-effective energy efficiency savings, as Vermont law requires. This requirement benefits all electric ratepayers because cost-effective energy efficiency produces the system benefits described in Section III.A, above, which reduce costs that would otherwise be passed on to all ratepayers in the form of higher rates. These system benefits are in addition to the bill reductions experienced by ratepayers who actually participate in energy efficiency programs and therefore consume less electricity.

In addition, cost-effective energy efficiency decreases the total amount of retail electric sales. This fact is important in light of Vermont's renewable energy goals under 30 V.S.A. § 8005(d), which call for increasing amounts (on a percentage basis) of Vermont's retail electric sales to be provided by renewable resources. Historically, many renewable resources have been generally more expensive than traditional supply-side resources, and materially more expensive than energy efficiency. To the extent that Vermont utilities seek to achieve these voluntary goals, their attainment will likely be less expensive for ratepayers if total retail electric sales have been reduced as a result of energy efficiency investments.

Cost-effective electric efficiency also decreases electric utilities' peak demand. This fact is important in light of Vermont's net-metering program, which requires Vermont distribution utilities to make net metering available to their customers until the cumulative capacity of net metering systems equals 15% of a distribution utility's peak demand during 1996, or the peak demand during the most recent full calendar year, whichever is greater.¹⁵⁸ Energy efficiency investments can essentially cap each utility's net-metering obligation at 15% of 1996 peak demand. Placing such a cap on the net metering program is important, as the credits paid to net-metering customers in general, and especially solar net metering customers, are currently significantly greater than a utility's costs to procure electricity from other supply-side resources. Because these additional costs of providing net-metering credits are socialized among all of a

157. This is particularly important in light of three challenges facing our state: (1) Vermont is located at the end of the energy pipeline, far from fossil-fuel and large hydro sources; (2) Vermont is one of the most rural states in the U.S., and it costs more to serve customers in less densely populated areas; and (3) Vermont's mountainous terrain increases transmission and distribution construction and maintenance costs.

158. 30 V.S.A. § 219a(h)(1)(A).

distribution utility's customers, all of these customers may benefit if a distribution utility's net-metering program is capped to no more than 15% of 1996 peak demand as a result of energy efficiency investments.

After reviewing the information presented to us during this budget-setting process, we conclude that an increase in the EEU program budget for electric efficiency services is necessary in order to enable both EEUs to acquire all reasonably-available, cost-effective electric efficiency savings. This conclusion is supported by the EEUs' actual implementation experience, the Department's 2013 Potential Study, and the three scenario analyses.

The fact that the EEUs have historically achieved savings at a levelized cost that is considerably below what it would cost an electric utility to provide the same energy and capacity over the average lifetime of the efficiency measures (based on avoided costs in effect at the time the measures were installed) indicates that, even with potential increases in the EEUs' levelized cost of acquiring energy efficiency, additional investments would be cost-effective. In addition, the Department's 2013 Potential Study provided an estimate of the achievable cost-effective electric efficiency potential during the 20-year period covered by the study, indicating that there is considerable additional cost-effective electric efficiency potential. Furthermore, the scenario analyses showed that, even with incentive levels of less than 100 percent, as was the case in the Department's 2013 Potential Study, the reasonably available cost-effective electric efficiency potential in Vermont is higher than that which could be acquired by the current electric EEU program budget level.

We have also taken into account the objectives set forth in 30 V.S.A. § 209(d)(3) as that statute requires. All four objectives to which we are required to give "particular emphasis" are advanced by the acquisition of additional cost-effective electric efficiency, which the EEUs could do if the EEU program budget for electric services were increased.

At the same time, however, 30 V.S.A. § 209(e)(14) requires us to consider the effect of the EEU program on rates. The rate and bill impact analysis presented in this proceeding demonstrates that, even though increased investment in electric efficiency will reduce Vermonters' electric costs over the long term, in the short term, budget increases will increase

electric rates for all customers, and will increase bills for non-participants in energy efficiency programs. (Participants will experience lower bills due to reduced usage.)

Ultimately we determine that electric EEU program budgets of \$52.2 million in 2015, \$56.2 million in 2016, and \$58.7 million in 2016 provide the best balance among all of the statutory criteria we are required to consider. These budgets include sufficient funds for both EEUs' electric resource-acquisition and non-resource-acquisition activities, the Department's evaluation activities, VEIC's compensation, and fiscal agent and EEU fund audit costs, while not unduly increasing rates and non-participant bills.

Our decision today is based on the need to balance competing statutory objectives. As in previous EEU program budget determinations, the achievable-potential study, the scenario analyses, and participants' recommendations have helped us understand the impacts of various budget options. However, budget-setting is not an exact science. Rather, it requires the exercise of judgment and expertise to evaluate the range of possible EEU program budgets and consider participants' arguments in light of the statutory objectives.

For example, CLF/VPIRG contend that the incremental rate impacts of Scenario 3 are justified when considered in light of the bill and societal cost savings.¹⁵⁹ While there is no question that Scenario 3 would deliver additional bill and societal cost savings, and would address several of the Section 209(d)(3) criteria, we disagree that these additional benefits justify the rate impacts. According to the Synapse Rate and Bill Impacts Analysis, Scenario 2 would increase Efficiency Vermont residential customers' long-term average rates by 2.9% relative to a hypothetical case with no additional energy efficiency spending. Scenario 3 would increase these same customers' rates by another 1.8%, or by 62% more than Scenario 2. Efficiency Vermont residential customers would experience long-term average bill reductions of 5.9% under Scenario 2 relative to the hypothetical case with no additional energy efficiency spending. Under Scenario 3, these customers would see an additional 0.9% reduction in bills, or 15% more than under Scenario 2. Without discounting the benefits that accrue to customers, the state economy, and society, we find that the additional benefits that would accrue to customers, especially

159. CLF/VPIRG comments of 5/21/14 at 2.

participants, under Scenario 3 budgets do not justify the incremental rate impacts. This is especially apt in light of the continuing economic recovery.

Similarly, we do not accept AIV's argument that budgets consistent with Scenario 1, or lower, would result in the realization of all reasonably cost-effective potential. As indicated in the Synapse Rate and Bill Impacts Analysis, Scenario 1 would result in long-term average customer bills that are greater than those that would result from Scenario 2.

In addition, our decision is informed by the implementation experience of VEIC and BED. For example, VEIC observed that in the past it was able to significantly ramp up Efficiency Vermont budgets over a short time period. However, VEIC stated that if the Board were to approve Scenario 3 budgets, while it would be possible to ramp up to that level, it would be extremely challenging.¹⁶⁰ This cautious sentiment warrants a certain level of conservatism when considering the pace at which to increase EEU budgets.

On balance, the budgets set forth in this Order will provide significant benefits to Vermont ratepayers. These long-term benefits outweigh the short-term economic impacts associated with the increased electric EEU budgets.

H. TEPF Program Plans and Budget Determination

The P&A Document requires that the DRP process establish TEPF program plans and budgets for the EEU's.

Pursuant to 30 V.S.A. §§ 209(e)(1) and 255(d), revenues from the ISO-NE FCM and RGGI auctions are used to provide TEPF services to unregulated fuel customers. Since the RGGI and FCM auction proceeds can vary significantly from auction to auction, any TEPF budget will necessarily involve significant uncertainty, and the further out in time that the budget is predicted, the greater the uncertainty. In addition, both RGGI and the FCM are administered by regional groups. Accordingly, policy changes that happen at the regional level, and over which Vermont has limited control, can impact the proceeds from these two sources. For these reasons, any TEPF budget level established by the Board must, of necessity, be an estimate.

160. Tr. 5/14/14 at 109-110 (Wickenden, Massie).

1. Efficiency Vermont TEPF Program Plan and Budgets

a. Efficiency Vermont TEPF Program Plan

The TEPF program plan proposed by VEIC provides a general description of anticipated TEPF energy efficiency strategies and services for a 10-year period beginning in 2015. VEIC represents that the plan balances the funding constraints of the available TEPF budget with the State's energy savings goals set forth in 10 V.S.A. § 581.¹⁶¹ The plan seeks to prioritize the core comprehensive residential retrofit services and existing partnerships, while continuing to strengthen the infrastructure to support the scaled-up services needed for achieving Vermont's energy efficiency goals.

Due to limits on and variability of TEPF funding relative to the scope of Vermont's efficiency goals, VEIC proposes to target funding in three selected market sectors:

(1) comprehensive thermal shell retrofits; (2) mechanical systems; and (3) targeted market sectors. VEIC proposes these sectors because they: (1) provide the best options for aligning with EEC-funded programs; (2) realize increased yields in narrow C&I market sectors; and (3) continue to support historical investments in contractor partnerships and education.

VEIC states that it will coordinate its TEPF program implementation with other energy efficiency providers, including VGS, BED, Green Mountain Power Corporation, and the Weatherization Assistance Program. VEIC proposes to provide TEPF services to a range of customers, including low-income and non-low-income residential customers. Additionally, VEIC proposes that 75% of the TEPF budget be allocated to residential efficiency services and 25% to C&I efficiency services.

The Department and VEIC held numerous discussions regarding TEPF programs and expected savings. The Department supports VEIC's proposed TEPF program plan. No other party filed comments on VEIC's proposed TEPF program plan.

161. Section 581 provides that a state goal is to "improve substantially the energy fitness of at least 20 percent of the state's housing stock by 2017 (more than 60,000 housing units), and 25 percent of the state's housing stock by 2020 (approximately 80,000 housing units)."

VEIC has developed a proposal that attempts to address the goals of Section 581 with the limited funds available. We conclude that VEIC's TEPF program plan is sound and provides a sufficient basis for Efficiency Vermont TEPF activities.

b. Efficiency Vermont TEPF Budgets

The Department provided a TEPF 10-year forecast of estimated revenue from Vermont's participation in the FCM and RGGI auctions. VEIC used that forecast to develop TEPF budgets and expected MMBtu savings. Efficiency Vermont's proposed TEPF budgets are broken down into three categories: resource acquisition; non-resource acquisition; and an operations fee and maximum performance incentive payment. These three categories are further represented as both three-year budget levels and ten-year budget levels, which are used for longer-term planning purposes. Finally, the non-resource acquisition budget category is further broken down into seven categories which are the same as the EEC-funded NRA categories discussed in Section IV. VEIC proposes that approximately 5% of the total budget will be set aside for operations fee and performance incentive payments, which is consistent with its proposal for electric efficiency programs.

The Department concurs with VEIC's total projected TEPF budget and the associated expected MMBtu savings output from VEIC's scalable TEPF model used to predict savings. The Department proposes that approximately 4.1% of the total budget will be set aside for operations fee and performance incentive payments. The Department and VEIC both note that the TEPF budget is a fixed number and any adjustment to the resource acquisition portion of the TEPF budget will require the remodeling of expected MMBtu savings. No other party filed comments on VEIC's proposed TEPF budgets.

We determine that VEIC's total three-year budget for TEPF activities during the 2015-2017 performance period will be approximately \$20,396,427. The proposed TEPF budgets are based on the most recent forecasts for FCM revenue and RGGI auction proceeds, reflected in the Department's January 10, 2014, TEPF budget estimate filing. The budget that we approve today consists of the TEPF NRA, discussed below, an operations fee, and performance payment, with the remainder of the Department's TEPF budget estimate reverting to TEPF RA activities.

Consistent with our determination for EEC-funded activities, we conclude that a 4.5% set-aside (calculated on a "mark-up" basis) for an operations fee and performance payment related to Efficiency Vermont's TEPF program, rather than the 5% proposed by VEIC, is warranted. Additionally, of the 4.5% set-aside, 60% shall be available for a performance payment and 40% shall be available for an operations fee.

We determine that Efficiency Vermont's total three-year budget for TEPF-related NRA activities during the 2015-2017 time period will be approximately \$1,725,648. As discussed above, the budget levels for the 2015-2017 performance period for each of the seven categories is based on 88% of the funds allocated for electric-efficiency activities and 12% for TEPF activities. We conclude that the NRA budgets proposed by VEIC are reasonable and we approve the TEPF NRA budgets as set forth below.

Efficiency Vermont TEPF NRA Budgets by Category

| Budget Categories | 2015-2017 dollar amount |
|----------------------------------|--------------------------------|
| Education and Training | \$307,740 |
| Applied Research and Development | \$148,272 |
| Planning and Reporting | \$198,696 |
| Evaluation | \$323,172 |
| Policy and Public Affairs | \$181,068 |
| Information Technology | \$470,700 |
| General Administration | \$96,000 |
| Total | \$1,725,648 |

We determine that Efficiency Vermont's total three-year budget for TEPF-related RA activities during the 2015-2017 performance period will be approximately \$17,792,464, which represents the remainder of the total TEPF budget after subtracting the NRA and operations fee and performance payment categories. Accordingly, we approve the TEPF budgets for the 2015-2017 performance period, as set forth below and in Appendix A to this Order.

Efficiency Vermont 2015-2017 Estimated TEPF Budgets

| | 2015-2017 dollar amount |
|---|--------------------------------|
| Resource Acquisition | \$17,792,464 |
| Non-Resource Acquisition | \$1,725,648 |
| Operations Fee and Performance Payment | \$878,315 |

Given that the TEPF budget is a fixed number and the proposed resource acquisition portion of the TEPF budget has been adjusted, remodeling of the expected MMBtu savings is required. Accordingly, we direct VEIC to file an updated forecast of expected 2015 to 2024 MMBtu savings no later than August 1, 2014.

Because of the uncertainty associated with the estimated TEPF budget amounts, it is important that there be a mechanism for modifying these budgets. With respect to resource acquisition activities, the primary concern is whether the QPIs must be modified to reflect changes in budget levels. A process for revising QPIs was approved during the inaugural DRP. In addition, there is a separate mechanism for adjusting non-resource acquisition budgets. The P&A Document states that, if reconsideration of the three-year NRA budgets is necessary, "the Board may, after such process as may be required by the Board, modify the Non-Resource-Acquisition budget and therefore the overall budget."¹⁶² Accordingly, we will require VEIC to submit revised TEPF budget estimates on a yearly basis, no later than February 15 of each year, to ensure that any significant deviation from the TEPF budgets and savings estimates established in this Order are identified prior to the end of the performance period.

In addition, we conclude that VEIC has provided a reasonable estimate of the 10-year TEPF budgets, given the uncertainty associated with the TEPF funding sources. Accordingly, we approve the proposed ten-year estimated TEPF budgets. The TEPF budgets for the 2015-2024 period are contained in Appendix A to this Order. The ten-year TEPF budgets are used for planning purposes. As stated above, there is uncertainty surrounding the TEPF revenue sources; when using the TEPF budgets established in this Order, VEIC should be mindful of that

162. P&A Document, approved December 10, 2010, (Docket 7466) at IV.5.C.

uncertainty. We further will require VEIC to submit yearly updates to these ten-year estimates, no later than February 15 of each year, to ensure that its planning process reflects any changes to the TEPF budgets.

2. BED TEPF Program Plan and Budgets

a. BED TEPF Program Plan

BED proposes to focus its TEPF program on the residential market. BED represents that the C&I TEPF market for cost-effective projects is extremely limited due to the high saturation of natural gas.¹⁶³ The TEPF residential market is also relatively small compared to the rest of Vermont due to the high percentage of homes in Burlington using natural gas.

BED proposes to continue, as in 2014, to focus its TEPF efforts on two condominium complexes (250 units) that represent the largest concentration of BED customers not using natural gas. Through this work over the past years BED has been able to establish more accurate project costs and savings estimates for these units to help better inform the accuracy of the DRP budget and savings estimates.

The Department and BED consulted on the development of the TEPF program and expected savings. The Department supports BED's proposed TEPF program plan. No other party filed comments on BED's TEPF program plan.

BED has developed a TEPF proposal that addresses both the limited available TEPF funding resources and the limited number of unregulated fuel BED customers, given that a significant number of BED customers are also VGS customers. We conclude that BED's TEPF program plan is reasonable and provides a sufficient basis for BED's TEPF activities.

b. BED TEPF Budgets

The Department provided a TEPF 10-year forecast of estimated revenue from Vermont's participation in the FCM and RGGI auctions. BED used that forecast to develop TEPF budgets and expected MMBtu savings. Although there are QPIs for BED, there are no performance incentive payments associated with these QPIs, and further, there is no operations fee for BED.

¹⁶³ VGS provides efficiency programs to its customers; however, a significant proportion of BED's customers are also VGS customers.

Accordingly, BED's 2015-2017 estimated TEPF budget is only separated into resource acquisition and non-resource-acquisition budgets. These two categories are further represented as both three-year budget levels and ten-year budget levels, which are used for longer-term planning purposes. Finally, the non-resource acquisition budget category is further broken down into seven categories which are the same as the EEC-funded NRA categories, except for spending on smart grid and AMI.

The Department concurs with BED's total projected TEPF budget and the associated expected MMBtu savings output from the scalable TEPF model used to predict savings. No other party filed comments on VEIC's proposed TEPF budgets.

We determine that BED's total three-year budget for TEPF activities during the 2015-2017 performance period shall be approximately \$327,900. The proposed TEPF budgets are based on the most recent forecasts for FCM revenue and RGGI auction proceeds. We conclude that the total TEPF budgets proposed by BED are reasonable given the uncertainty associated with the TEPF budget sources. Pursuant to 30 V.S.A. § 209(e)(1), TEPF funds derived from the FCM and RGGI must be used to provide efficiency services to unregulated fuels customers, and unregulated fuels customers do not include VGS customers. Accordingly, the unregulated TEPF potential for BED customers is extremely limited.

We determine that BED's total three-year budget for TEPF-related NRA activities during the 2015-2017 time period will be approximately \$32,900. We conclude that the NRA budgets proposed by BED are reasonable and we approve the TEPF NRA budgets as set forth below.

BED TEPF NRA Budgets by Category

| Budget Categories | 2015-2017 dollar amount |
|----------------------------------|--------------------------------|
| Education and Training | \$7,800 |
| Applied Research and Development | \$3,000 |
| Planning and Reporting | \$3,850 |
| Evaluation | \$2,350 |
| Policy and Public Affairs | \$3,000 |
| Information Technology | \$2,350 |
| General Administration | \$10,550 |
| Total | \$32,900 |

We determine that BED's total three-year budget for TEPF-related RA activities during the 2015-2017 performance period will be approximately \$294,990, which represents the remainder of the total TEPF budget after subtracting the NRA category. Accordingly, we approve the TEPF budgets for the 2015-2017 performance period, as set forth below and in Appendix A to this Order.

BED 2015-2017 Estimated TEPF Budgets

| | 2015-2017 dollar amount |
|---------------------------------|--------------------------------|
| Resource Acquisition | \$294,992 |
| Non-Resource Acquisition | \$32,900 |

BED has provided an initial forecast of expected MMBtu savings for the 2015-2024 period with plans to make additional refinements. Accordingly, we direct BED to file an updated forecast of 2015-2024 MMBtu savings based on the TEPF budgets approved in this Order no later than August 1, 2014.

Given the uncertainty associated with the estimated TEPF budget amounts, it is important that there be a mechanism for modifying these budgets. As discussed above for Efficiency Vermont, a process for revising TEPF budgets and associated QPIs was approved during the inaugural DRP and provided for in the P&A Document. Accordingly, we require BED to submit revised TEPF budget estimates on a yearly basis, no later than February 15 of each year, to

ensure that any significant deviation from the TEPF budgets and savings estimates established in this Order are identified prior to the end of the performance period.

In addition, we conclude that BED has provided a reasonable estimate of the 10-year TEPF budgets, given the uncertainty associated with the TEPF funding sources. Accordingly, we approve the proposed ten-year estimated TEPF budgets. The TEPF budgets for the 2015-2024 period are contained in Appendix A to this Order. The ten-year TEPF budgets are used for planning purposes. We further will require BED to submit yearly updates to these ten-year estimates, no later than February 15 of each year, to ensure that its planning process reflects any changes to the TEPF budgets.

IV. NEXT STEPS IN THIS PROCEEDING

There are two areas in which further steps will be necessary before the DRP process can be finalized: (1) EEU QPIs; and (2) Omnibus Order. We address each of these areas below.

A. EEU QPIs

On September 30, 2013, and April 8, 2014, the Board issued Orders determining the framework that the participants should use to develop proposed electric and TEPF QPIs for the 2015-2017 budget period for both VEIC and BED. Pursuant to the schedule adopted in this proceeding, the next step is for the Department, EEUs, and other stakeholders to file: (1) updated electric and TEPF savings estimates; (2) proposed QPI targets; and (3) proposed QPI incentive scaling and weighting. The deadline for this filing shall be August 1, 2014, with any initial comments due no later August 8, 2014. We direct Board staff to conduct additional proceedings, including a workshop to discuss the updated electric and TEPF savings estimates and QPI proposals, and any initial comments thereon.

B. Omnibus Order

The Omnibus Order will be a single document that includes all substantive orders issued in this proceeding. The establishment of the Omnibus Order reflects a lesson learned from the previous DRP proceeding – that a DRP proceeding should result in a document that contains all of the elements of a DRP. The deadline for the Department, EEUs, and other stakeholders to file

proposals for an Omnibus Order shall be September 8, 2014. Any comments on Omnibus Order proposals must be filed no later than September 15, 2014.

V. CONCLUSION

In this Order, we have established the actual EEU budgets that will be used in 2015, 2016, and 2017. In addition, we establish 20-year electric and 10-year TEPF budgets for planning purposes. Furthermore, we make determinations regarding the various components of each of these annual budgets.

On balance, we have determined that actual EEU budgets most similar to Scenario 2 are appropriate for implementation in the coming three years, and for planning purposes going forward. We conclude that this scenario appropriately balances the statutory considerations of Sections 209(d) and 209(f).

This second DRP proceeding has been conducted with the benefit of lessons learned during the inaugural DRP proceeding. In order to ensure that future DRP proceedings continue to build on past experience, we will direct Board staff to coordinate a debriefing workshop with interested stakeholders after the conclusion of this proceeding for the purpose of determining what worked well in this DRP proceeding, and what did not, and establishing plans that will facilitate successful and efficient completion of future DRP proceedings. We are concerned that the timing of the DRP may be imposing a constraint on the budget-setting process by not providing EEUs with sufficient time to modify their activities to be consistent with the newly established budget levels. Therefore, we direct Board staff to explore this topic with the participants and make a recommendation to us regarding whether the timing of the DRP should be modified in the future.

VI. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board ("Board") of the State of Vermont that:

1. The Energy Efficiency Utility ("EEU") program electric budgets for the 2015-2017 time period shall be:

- 2015 – \$52.2 million
- 2016 – \$56.2 million
- 2017 – \$58.7 million

2. The EEU electric budgets for the 2018-2034 time period and the components of the EEU electric budgets for the 2015-2034 time period (including the Department of Public Service's ("Department") electric EEU monitoring and evaluation budgets, the City of Burlington Electric Department's ("BED") share of the total electric EEU program budget, and Vermont Energy Investment Corporation's ("VEIC") compensation budgets, among others) shall be those shown in Appendix A to this Order.

3. The EEU program thermal energy and process fuels ("TEPF") estimated budgets for the 2015-2017 time period shall be:

- 2015 – \$7.1 million
- 2016 – \$7.2 million
- 2017 – \$8.3 million

4. The EEU TEPF program estimated budgets for the 2018-2024 time period and the components of the EEU TEPF budgets for the 2015-2034 time period (including the Department's TEPF EEU monitoring and evaluation budgets, BED's share of the total TEPF EEU program budget, VEIC's compensation budgets, among others) shall be those shown in Appendix A to this Order.

5. The Department's 2015-2017 energy efficiency evaluation plan is approved.

6. On or before August 1, 2014, the participants shall file an updated forecast of 2015-2034 electrical savings and benefits, and an updated forecast of 2015-2024 TEPF savings and benefits, and proposed quantifiable performance indicators for the 2015-2018 budget period. Such filings shall include appropriate equity constraints. Any comments on the August 1 filings must be filed by August 8, 2014. Board staff shall conduct additional proceedings to determine quantifiable performance indicators for the 2015-2017 budget period.

7. On or before September 8, 2014, the participants shall file proposals for an Omnibus Order, with any comments on Omnibus Order proposals due no later than September 15, 2014.

8. The EEU's shall file annual updates on TEPF budget and savings forecasts no later than February 15 of each year.

9. Upon completion of this Demand Resources Plan ("DRP") proceeding, Board staff are directed to convene a debriefing workshop with participants for the purpose of evaluating the DRP process and exploring ways that will facilitate successful future DRP proceedings.

Dated at Montpelier, Vermont, this 9th day of July, 2014.

| | | |
|---------------------------|---|----------------|
| <u>s/ James Volz</u> |) | |
| |) | PUBLIC SERVICE |
| |) | |
| <u>s/ John D. Burke</u> |) | BOARD |
| |) | |
| |) | OF VERMONT |
| <u>s/ Margaret Cheney</u> |) | |

OFFICE OF THE CLERK

FILED: July 9, 2014

ATTEST: s/ Susan M. Hudson
Clerk of the Board

NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and Order.