STATE OF VERMONT
PUBLIC SERVICE BOARD

EEU-2013-01

2013-2014 Demand Resources Plan Proceeding)

Order entered: 9/30/2013

ORDER DETERMINING ELECTRIC RESOURCE ACQUISITION SCENARIOS TO BE ANALYZED AND ELECTRIC AND THERMAL ENERGY AND PROCESS FUEL QUANTITATIVE PERFORMANCE INDICATOR FRAMEWORK

I. INTRODUCTION

On June 10, 2013, the Vermont Public Service Board ("Board") issued an Order that initiated a workshop process to develop the second statewide long-term Demand Resources Plan ("DRP"). The workshop process will lead to, among other items, a Board decision regarding statewide short- and long-term electric and thermal energy and process fuel ("TEPF") budgets and goals. To facilitate this decision, workshop participants have proposed to analyze possible budget and energy savings "scenarios." In this Order, we determine which scenarios should be analyzed, and consider the assumptions that should be incorporated into the modeling of these scenarios. In addition, we determine the framework that workshop participants should use to develop proposed electric and TEPF quantifiable performance indicators ("QPI"). Specifically, workshop participants should analyze the following electric scenarios:

- acquisition of all economically achievable potential through level budgets (adjusted for inflation) over twenty years;
- 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
- ramp up to and maintenance of acquisition of 3% savings relative to annual electric energy usage by year 2019.

Furthermore, workshop participants shall use the following framework to develop proposed electric QPIs: (1) Annual incremental MWh savings; (2) total resource benefits; (3) cumulative

summer peak demand savings; (4) cumulative winter peak demand savings; (5) long-term market transformation; (6) equity for all electric ratepayers; (7) equity for residential ratepayers; (8) equity for low-income customers; (9) commercial customer size equity; (10) geographic equity; (11) administrative efficiency; (12) service quality; and (13) performance period spending. Depending on whether geographic-targeting efforts are continued, we determine that workshop participants shall develop QPIs that address geographic targeting. We direct participants to continue to examine the need for a business comprehensiveness QPI, and to further explore the concept of a QPI addressing average monthly coincident peak. Finally, we determine that workshop participants should use the following framework to develop proposed TEPF QPIs: (1) overall MMBTU savings; (2) residential single family comprehensiveness of savings; (3) residential customer market-sector equity; and (4) low-income participation.

II. PROCEDURAL HISTORY

On June 16, 2013, Board staff held a workshop at which participants discussed scheduling proposals for this proceeding in light of lessons learned from the last DRP proceeding (proceeding number EEU-2010-06).

On July 3, 2013, the Department of Public Service ("Department") filed on behalf of itself, Vermont Energy Investment Corporation ("VEIC") operating as Efficiency Vermont,[1] and the City of Burlington Electric Department ("BED") in its capacity as an energy efficiency utility ("EEU"),[2] a proposed schedule for this proceeding along with a memorandum regarding assumptions for scenario modeling.

On August 1, 2013, the Board issued an Order that established a schedule for this proceeding. The schedule included: (1) a deadline of August 15, 2013, for workshop participants to propose (a) electric resource acquisition three- and twenty-year budget and savings scenarios to be modeled, including value-weighted descriptions of the scenarios and numerical values for available modeling input assumptions, and (b) recommendations on the framework for

1. VEIC serves as Vermont's statewide EEU, known as Efficiency Vermont, under an Order of Appointment issued by the Board on 12/20/10 in Docket 7466.

2. BED serves as an EEU in its service territory, under an Order of Appointment issued by the Board on 4/19/11 in Docket 7466.

electric and TEPF QPIs; (2) an August 27, 2013, workshop to discuss scenario proposals, modeling input assumptions, and QPI framework recommendations; and (3) a deadline of September 10, 2013, for workshop participants to file comments on proposed scenarios, modeling input assumptions, and QPI framework recommendations.

On August 15, 2013, the Department filed proposed scenarios to model. On behalf of itself, VEIC and BED, the Department also proposed numerical values for available modeling input assumptions and recommendations on the framework for electric and TEPF QPIs.

Also on August 15, 2013, VEIC filed scenario modeling recommendations for this DRP proceeding as well as a potential scenario to be considered in a future proceeding.

On August 27, 2013, Board staff convened a workshop to discuss the August 15 proposals.

On September 10, 2013, the Conservation Law Foundation ("CLF"), Vermont Electric Power Company, Inc. ("VELCO"), VEIC, the Department, Associated Industries of Vermont ("AIV"), and Green Mountain Power Corporation ("GMP") filed comments on the August 15 proposals.

On September 18, 2013, the Department filed reply comments regarding the August 15 proposals.

On September 26, 2013, the Department filed a letter stating that it now plans to file a "Table of Assumptions and Associated Values" for use in modeling scenarios on October 7, 2013 (rather than September 30 as it had previously indicated).

III. ELECTRIC SCENARIOS

Section 209(d)(4) of Title 30 requires that the budget for electric efficiency acquisition be "adjusted as necessary in order to realize all reasonably available cost-effective energy efficiency savings." Sections 209(d)(4) and (e)(14) also include various factors that the Board must balance when setting the budget for electric efficiency acquisition.

To assist us with this determination, the Department, and possibly other workshop participants, as part of this workshop process will complete a limited update of the electric efficiency potential studies performed in the previous DRP. These studies are intended to

identify, among other items, the available cost-effective electric efficiency savings. In addition, as noted in the August 1, 2013, Scheduling Order in this proceeding, the EEUs, and possibly other workshop participants, will analyze the budget and savings scenarios identified in today's Order.[3] Because these scenarios vary the pace at which available cost-effective electric efficiency savings would be acquired, they will provide us with useful information regarding the various factors the statute requires us to consider when setting electric efficiency budgets.[4]

The August 1, 2013, Scheduling Order established an August 15, 2013, deadline for workshop participants to file proposed electric scenarios to be modeled. Workshop participants ultimately filed three proposed electric scenarios before the deadline:

- acquisition of all economically achievable potential through a level budget (adjusted for inflation) over twenty years (proposed by the Department and referred to herein as "20-Year Inflation-Adjusted Level Budgets");
- 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 (proposed by the Department and VEIC, separately, and referred to herein as "Sustained Growth Budgets"); and
- ramp up to and maintenance of acquisition of 3% savings relative to annual electric energy usage by year 2019 (proposed by VEIC and referred to herein as "Three Percent Savings").[5]

AIV contends that the scenario proposals fall short of providing a sufficient range of scenarios to inform subsequent discussions and determinations in this proceeding. Accordingly, in its September 10, 2013, comments AIV proposed the following two electric scenarios to be modeled:

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3. As noted in the August 1, 2013, Order in this proceeding, any participant may file scenario modeling results. The issue of which participants have mandatory versus permissive filing requirements is under consideration in proceeding number EEU-2013-05. Order of 8/1/13 at 4 (footnote 12).

4. As addressed further below, the statutory framework for TEPF efficiency programs is different, and the Board does not have discretion regarding the budgets for those programs. Therefore, there is no need for the Board to have a range of budget and savings options for those programs.

5. The Department initially proposed a 3.5% savings scenario. However, in its September 10 comments, the Department withdrew its 3.5% savings scenario and recommended that the Board adopt the 3% savings scenario proposed by VEIC.

- acquisition of all economically achievable potential through a level budget (not adjusted for inflation) over twenty years (proposed by AIV and referred to herein as "20-Year Level Budgets"); and
- acquisition of all economically achievable potential through a budget that is stepped down annually from the 2014 budget to the 2009 budget, adjusted for inflation, and subsequently remaining level with the 2009 budget, adjusted for inflation (proposed by AIV and referred to herein as "Step-Down Budgets").

We discuss each of the proposed scenarios below.[6]

In addition to these scenarios, the Department anticipates that its updated maximum achievable potential study results will be available on the same time line as the EEU scenario modeling results. The Department states that this study will provide an extreme upper boundary which may provide additional context from which to make budget recommendations.

A. 20-Year Inflation-Adjusted Level Budgets

As proposed by the Department, the 20-Year Inflation-Adjusted Level Budgets scenario provides for the acquisition of all economically achievable potential through a flat budget, set initially at the 2015 resource acquisition budget levels previously approved by the Board, and extended through 2034, adjusted for inflation. Updated modeling assumptions would be incorporated to model achievable savings.

Summary of Comments

The Department and GMP support this scenario. While AIV preferred the Department's proposals to those offered by VEIC, it is unclear whether AIV specifically supports modeling this scenario.

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6. VEIC filed an additional scenario that it proposes should not be considered within the context of this proceeding, but rather, requests that it be discussed by Vermont stakeholders in a subsequent Board proceeding, to commence in the spring of 2014. In addition to maximizing comprehensive MWh savings and coincident peak savings as under the current EEU paradigm, VEIC's proposal would incorporate pursuit of "strategic electrification" opportunities that may be advantageous to Vermont ratepayers.

CLF supports pursuing this scenario, asserting that it "will provide useful information as Vermont moves forward integrating renewable energy and distributed generation into its overall electricity supply." CLF comments at 1.

We do not make a determination with respect to this future scenario in this Order. Rather, we encourage VEIC to explore its proposal further with CLF and other Vermont stakeholders, and to renew its petition for a subsequent Board proceeding in the future.

CLF states that the Department's proposals are insufficient to provide the information that will be necessary to determine what budget level will acquire all reasonably available cost effective energy efficiency savings. CLF contends that each of the Department's proposals are driven by artificial or arbitrary parameters, and that each scenario proposal includes a specific limitation that is not specifically based on the statutory criteria. CLF states that the purpose of the exercise must be to develop guideposts that represent a range of possible solutions, and that they must be based on the statutory criteria. CLF recommends that the Board include in one of the scenarios it chooses an evaluation of how the scenario meets the full attainment of the statutory goal of acquiring all reasonably available cost effective energy efficiency within a reasonable time frame.

The Department continues to support this scenario proposal. The Department contends that the three scenarios it supports will represent anticipated low, medium and high savings. In addition, the Department states that the results of its maximum achievable potential study will provide an extreme upper bound point of reference.

Discussion

Pursuant to 30 V.S.A. § 209(d)(4), the Board is required to establish budgets to obtain all reasonably available, cost-effective energy efficiency savings. Thus, when the Board ultimately establishes budgets in this proceeding, it will need to make an assessment regarding the reasonably available cost-effective potential. For this reason, we determine that the scenarios should focus on the reasonably available cost-effective potential. We recognize that how reasonably available potential is determined depends upon subjective judgements and assumptions that may be disputed by workshop participants; CLF and AIV have each disputed, from opposite perspectives, whether this scenario represents reasonably available cost-effective potential. We expect that this workshop process will afford participants additional opportunity to critically examine each scenario's assumptions and results.

We determine that workshop participants should analyze the 20-Year Inflation-Adjusted Level Budget Scenario. CLF has properly observed that the scenario modeling exercise should produce a range of possible solutions. As noted above, we find that the scenarios should be focused on reasonably available cost-effective potential. We conclude that modeling this

scenario may yield results within the range of possibilities of reasonably available cost-effective potential.

B. Sustained Growth Budgets

As proposed by the Department and VEIC, separately, this scenario uses the projected annual resource acquisition allocations from the inaugural DRP to model the achievable savings for VEIC and BED. Years 2032, 2033, and 2034 are added to complete the twenty-year time period, with the final three years' budgets estimated based on the average annual increase from 2018 through 2031.[7]

Summary of Comments

CLF, the Department, VEIC, and GMP each support this scenario. While AIV preferred the Department's proposals to those offered by VEIC, it is unclear whether AIV specifically supports modeling this scenario. CLF states that this scenario provides a relatively aggressive increase consistent with the level of resource acquisition needed to meet statutory goals.

Discussion

We conclude that the Sustained Growth Budgets scenario should be analyzed by workshop participants. This scenario represents a continuation of the long-term electric resource acquisition budgets that the Board approved in the inaugural DRP.

C. Three Percent Savings

As proposed by VEIC, this scenario increases annual savings to an annual 3% reduction in energy use by 2019, and maintains the 3% annual reduction through 2034.

Summary of Comments

All workshop participants who filed comments that specifically address this scenario agree that it should be modeled. VEIC contends that this scenario, while aggressive, aligns with

7. The Department and VEIC scenarios were not identical, but rather, had nuanced differences. For instance, VEIC's proposal was unclear as to whether it was intended for both EEUs or just Efficiency Vermont, and the Department's proposal was silent on the time period to be used in determining the average annual increase to be used for the final three years of the twenty-year period. We determine that the two scenario proposals are sufficiently similar to be treated as one, that the scenario should apply to both EEUs, and that the time period to be used in determining the average annual increase for the final three years shall be as proposed by VEIC: 2018-2031.

the legislative directive to realize all reasonably available, cost-effective energy efficiency savings. VEIC observes that this scenario would place Vermont in the forefront of regional and national electrical efficiency investors on dollars-per capita and percent-reduction-of-sales bases. VEIC notes that this scenario will require a significant increase in resource acquisition budgets over the 20-year forecast period in order to reach these savings levels. VEIC states that this scenario could increase utility yield rates, and that the scenario may result in a reduction in Vermont's share of the Regional Network Service charge.

CLF supports this scenario, and characterizes it as a modest increase consistent with growing efficiency acquisition over time.

While AIV did not specifically comment on this scenario proposal, it did provide comments concerning EEU budget levels in general. AIV believes that stakeholders should consider options for reducing EEU budget levels, including alternative funding mechanisms such as financing options and tax policies, as well as programs such as the Self-Managed Energy Efficiency Program and Self-Administered Energy Efficiency Program. AIV contends that such alternatives must be taken into consideration when determining the "reasonableness" of EEU budgets.

Discussion

We conclude that the Three Percent Savings scenario should be analyzed by workshop participants. We find that it is appropriate to analyze a scenario that provides a higher, sustained level of savings than Vermont is currently achieving. We do not dismiss AIV's concerns regarding EEU budget levels; rather, we determine that analyzing the Three Percent Savings scenario will provide valuable information in this proceeding, and note that AIV may raise its concerns again at a later stage of this proceeding, if it wishes.

D. 20-Year Level Budgets

As proposed by AIV, this scenario proposal is identical to the Department's 20-Year Inflation-Adjusted Level Budgets scenario, with the exception that annual budget levels would not be adjusted for inflation.

Summary of Comments

The Department notes that this scenario is quite similar to the Department's proposed 20-Year Inflation-Adjusted Level Budgets scenario. The Department argues that modeling both scenarios is unlikely to yield significantly different results, and thus recommends that the Board choose only one of these scenarios to be modeled.

Discussion

Having reviewed the Department's comments on this scenario, we conclude that it would be an inefficient use of ratepayer resources to direct participants to model each of these very similar scenarios. Therefore, we do not direct the EEUs to model this scenario. However, should AIV choose to model this scenario, AIV may submit its modeling results no later than the December 6, 2013, filing deadline, and those results will be discussed at the December 19, 2013, workshop.

E. Step-Down Budgets

As proposed by AIV, the Step-Down Budgets scenario would step down the EEU budgets, beginning in 2015, with the 2014 Board-approved resource acquisition budget, and progressively stepping down to the approved budget levels for 2009, adjusted for inflation. The EEU budgets would then be held at the 2009 level and adjusted annually for inflation.

Summary of Comments

The Department offered several observations related to AIV's reduced budget scenarios. The Department contends that a reduction in energy efficiency budgets is incompatible with the statutory directives of 30 V.S.A. § 209 requiring the Board to establish budgets that would realize all reasonably available, cost-effective energy efficiency savings. The Department further argues that AIV's proposed scenarios are not designed to achieve a result that is consistent with the Board's determinations in the last DRP proceeding, in which three- and twenty-year electric energy efficiency budgets were established. In that proceeding, the Board approved budgets that increased at annual increments ranging between 2.3% and 7.3%, which the Department contends implies that the Board found these budgets to be reasonable. In addition, the Department states that Section 209(e)(7) calls for the Board to provide a reasonably stable multi-year budget, which

avoids disruption in program implementation and allows the EEUs to bid into the Forward Capacity Market ("FCM"). The Department argues that declining budgets could have a substantial impact on electric efficiency customers with long lead times, and on the ability of EEUs to fulfill commitments in the Forward Capacity Market.

Discussion

This workshop process, as with the inaugural DRP, will lead to three-year efficiency budgets to be used for efficiency implementation activities, and twenty-year efficiency budgets to be used for efficiency and utility planning purposes. The twenty-year efficiency budgets will be re-evaluated every three years, thus offering the Board and stakeholders an opportunity to reassess, and adjust as necessary, the implementation and planning budgets to reflect changes in energy efficiency potential, which in turn inform the amount of reasonably available cost-effective energy efficiency savings.

While we have not yet seen the limited update of the potential study that is being conducted by the Department, we are aware that Efficiency Vermont is currently acquiring energy efficiency at a cost that is significantly below that of a comparable supply-side resource.[8] This indicates that there is additional cost-effective energy efficiency potential, and argues against a reduction in resource acquisition budgets. Therefore, we conclude that we will not direct ratepayer resources at modeling AIV's proposed Step-Down Budgets. Nevertheless, should AIV choose to model this scenario, AIV may submit its modeling results no later than the

8. According to the most recent Annual Report filed by Efficiency Vermont, in 2011 Efficiency Vermont delivered energy efficiency at 4.8 cents per kWh. Taking into account participating customers' additional costs and savings, the levelized net resource cost of saved electric energy was 1.6 cents per kWh. By contrast, the cost of comparable electric supply was 11.2 cents per kWh. Efficiency Vermont 2011 Annual Report at 6.

While the Board recently determined the 2012 annual incremental MWh savings that will be credited towards Efficiency Vermont's 2012-2014 performance goals, Efficiency Vermont has not yet filed its 2012 Annual Report reflecting those numbers. However, Efficiency Vermont's 2012 savings claim (which is prepared before energy savings have been verified by the Department) states that in 2012 Efficiency Vermont supplied electric efficiency at less than half the cost of comparable electric supply. Efficiency Vermont 2012 Savings Claim at 4. The 2012 savings verification process resulted in a determination that Efficiency Vermont's annual incremental MWh savings were overstated by 2.8%. EEU-2013-04, Order of 8/14/13 at 3. Thus, it is clear that even after using the verified savings figures, in 2012, Efficiency Vermont acquired energy efficiency at a cost significantly below that of a comparable supply-side resource.

December 6, 2013, filing deadline, and those results will be discussed at the December 19, 2013, workshop.

IV. MODELING INPUT ASSUMPTIONS

The Department, BED, and VEIC filed joint recommendations on available scenario modeling input assumptions, presented in two primary categories: (1) policy assumptions; and (2) model input assumptions.

A. Policy Assumptions

(1) Low-income Sector Equity Requirements

The Department, BED, and VEIC recommend that low-income sector equity requirements for scenario modeling be different for Efficiency Vermont and BED. For BED, they recommend that, for scenario modeling purposes, the level of low-income spending should be set at 2.6% of the resource acquisition budget for each scenario. This value was arrived at based on the assumption that 12% of BED's residential customers are low-income, and further based on the assumed EEC contribution level of these customers ($200,000) for the years 2015-2017 relative to an assumed $7.5 million resource acquisition budget. For Efficiency Vermont, the Department, BED, and VEIC recommend that, for scenario modeling purposes, the level of low-income spending should be set at a level of 8.9% of the resource acquisition budget for each scenario. This value was arrived at based on an assumed EEC contribution level from statewide (e.g., non-BED) low-income customers ($15 million) for the years 2015-2017 relative to an assumed $130 million resource acquisition budget. The 8.9% value further assumes an equity constraint of 70% to determine a minimum spending requirement, and includes a 0.8% adder which was applied to avoid modeling savings at a bare minimum savings requirement.

(2) Small Business Sector Equity Requirements

The current performance period (2012-2014) includes a QPI metric focused on small business equity. Specifically, this metric is measured by a minimum number of non-residential customers with less than 40,000 kWh annual consumption. For the 2012-2014 performance

period this represents 1,950 Efficiency Vermont customers and 158 BED customers. The Department, BED, and VEIC recommend that these numbers be used as the basis for this assumption in scenario modeling.

(3) Residential Sector Equity Requirements

The Department, BED, and VEIC originally recommended that the level of residential spending for Efficiency Vermont and BED be based on the percentage of resource acquisition spending used in the inaugural DRP. Specifically, for Efficiency Vermont they originally recommended that the level of residential spending in scenario modeling be assumed to be 34% of the Efficiency Vermont resource acquisition budget for 2015, 36% for 2016, and 37% for 2017, with the percent spending thereafter steadily increasing over time until it is assumed there is little available potential remaining. For BED, the Department, BED, and VEIC recommend that scenario models assume a level of residential spending equal to 25% of resource acquisition budgets in each of 2015, 2016, and 2017. The Department, BED, and VEIC note that the residential sector currently contributes approximately 48% and 25% of the Efficiency Vermont and BED total EEC, respectively.

On September 10, 2013, the Department and VEIC jointly recommended revisions to the residential and commercial sector split assumptions for Efficiency Vermont. The Department and VEIC state that the revised recommendation is intended to: (1) ramp up the residential sector split used for modeling to achieve sector equity within the 20-year forecast period; and (2) afford modelers an appropriate balance of stipulated and flexible sector split values for individual years and blocks of years for the modeling time frames. For the years 2015, 2016, and 2017, the Department and VEIC recommend that the residential sector resource acquisition spending be assumed to be 34%, 36%, and 37%, respectively, of total resource acquisition spending. For years 2018-2022, they recommend that the residential sector resource acquisition spending be assumed to average 40% of total resource acquisition spending, 43% for years 2023-2027, 46% for years 2028-2032, and 48% for years 2033 and 2034.

(4) Commercial and Industrial Sector Equity Requirement

The Department, BED, and VEIC recommend that the level of commercial and industrial spending in Efficiency Vermont and BED scenario models be assumed to be the inverse of the residential percentages, described above.

B. Modeling Inputs

The Department, BED, and VEIC made recommendations for modeling input assumptions that fall into six categories: (1) Impacts of Changes in Codes and Standards; (2) Avoided Costs; (3) Self-Managed Energy Efficiency Program ("SMEEP") and Customer Credit Program ("CCP") participant load; (4) Measure Decay; (5) Base Appliance and Equipment Energy Efficiency Levels, Free Rider and Spill Over Rates, and Measure Life; and (6) Behavioral Measures, Advanced Metering Infrastructure ("AMI") Measures, and other New Measures. We discuss each of the proposed modeling input assumptions below.

(1) Impacts of Changes in Codes and Standards

The Department, BED, and VEIC note that both commercial and residential energy codes are expected to be updated several times during the time period to be modeled, and that the updates would apply to Efficiency Vermont and BED equally. Specifically, the current commercial (*2011 Vermont Commercial Building Energy Code Standards*) and residential (*2011 Vermont Residential Building Energy Standard*) energy codes are expected to remain in effect through December 2014, with revised codes expected to be in place beginning in 2015 and again in 2018. The effect of energy code updates is a reduction in the amount of available savings potential. In addition, the Department, BED, and VEIC note that as part of the next code update process, stretch codes for both residential and commercial sectors may be developed for buildings that fall under Act 250, criterion 9F. The Department, BED, and VEIC recommend assuming that stretch codes will be adopted through the State of Vermont rulemaking process, and as a result that 5% energy savings beyond the statewide energy code will be achieved.

(2) Avoided Costs

The Department, BED, and VEIC recommend that assumptions for avoided costs should be based on the current *Avoided Energy Supply Costs in New England* report and the most recent Board Order regarding avoided costs. However, if updated avoided cost figures become available, the Department, BED, and VEIC recommend that they should be used instead.

(3) SMEEP and CCP Participant Load

The Department, BED, and VEIC note that SMEEP and CCP participants relate only to Efficiency Vermont modeling scenarios. They recommend that scenario models assume that International Business Machines Corporation ("IBM") and Omya, Inc. ("Omya") will continue to participate in SMEEP and CCP, respectively, that no new participants will enter these programs, and that load for these customers will be addressed in the forthcoming limited update to the VELCO Long-Range Transmission Plan. The Department observes that it may be necessary to remove the CCP participant's annual budget set-aside in order to establish an accurate adjusted total resource acquisition budget available for Efficiency Vermont. Accordingly, the Department recommends that this value be assumed to be constant at approximately $970,000 per year.

(4) Measure Decay

The Department, BED, and VEIC recommend that assumptions about measure decay be considered and applied to the DRP load forecast which is then used to estimate savings in the DRP, and that treatment of measure decay be the same for Efficiency Vermont and BED. They observe that the Vermont System Planning Committee ("VSPC") is currently considering the issue of measure decay and how it is handled in load forecasts.

(5) Base Appliance and Equipment Energy Efficiency Levels, Free Rider and Spill Over Rates, and Measure Life

The Department, BED, and VEIC note that base appliance and equipment efficiency levels, free rider and spill over rates, and measure life are all assigned at a detailed measure level in scenario models and are based on Technical Reference Manual ("TRM") values or specific

measure characterizations where TRM values are not available. The EEUs and the Department are currently reviewing all measures to determine whether any changes are anticipated, and whether changes would be significant enough to warrant specific identification and adjustment within scenario models. It is anticipated that a final list of specific measures which are determined to significantly impact modeling results will be available for inclusion in models by October 1, 2013.

(6) Behavioral Measures, Advanced Metering Infrastructure ("AMI") Measures, and Other New Measures

The Department, BED, and VEIC note that they are currently identifying, characterizing, and prioritizing behavioral measures, AMI-enabled measures, and other new measures that are not currently part of the TRM and EEU savings portfolios. It is anticipated that a list of assumed new measures will be finalized and available by October 1, 2013, and that behavioral and AMI-enabled measures are expected to be part of the modeled savings portfolio starting in 2015.

C. Discussion

No comments on the joint policy and input modeling assumptions have been received. We find the scenario policy and input modeling assumptions to be reasonable, and they are hereby approved. The Department estimates that documentation of these assumptions will be filed no later than October 7, 2013.

V. ELECTRIC AND TEPF QPI FRAMEWORK

A. Electric QPIs

Participant Recommendations

The Department, BED, and VEIC recommended the following general categories of electric quantifiable performance indicators ("QPIs"):

> (1) Annual incremental MWh savings indicator intended to encourage EEUs to design and implement efficiency initiatives that will maximize electrical energy savings. This metric would measure the total of the incremental MWh savings achieved each year of a performance period.

(2) Total resource benefits indicator intended to encourage EEUs to design and implement efficiency initiatives that will maximize the lifetime electric, fossil-fuel, and water benefits. This metric would measure the cumulative three-year total resource benefits achieved in a performance period.

(3) Cumulative summer peak demand savings indicator intended to encourage EEUs to design and implement efficiency initiatives that will maximize the capacity reduction coincident with peak summer demand. This metric would measure cumulative three-year coincident peak savings in a performance period.

(4) Cumulative winter peak demand savings indicator intended to encourage EEUs to design and implement efficiency initiatives that will maximize the capacity reduction coincident with winter peak demand. This metric would measure cumulative three-year coincident peak savings in a performance period. The Department, BED, and VEIC recommend that workshop participants examine, during the development of QPI targets for both summer and winter peak demand savings, whether peak demand should be measured relative to the Independent System Operator-New England ("ISO-NE") identified peak.

(5) Geographic targeting indicators intended to encourage EEUs to design and implement efficiency initiatives that will defer transmission and distribution upgrades in constrained areas.[9] The recommendation is for the development of geographic targeting metrics only if the Board approves geographic targeting initiatives for the 2015-2017 performance period.

(6) Business comprehensiveness of savings indicator intended to ensure that energy efficiency initiatives are designed and implemented to acquire comprehensive savings.

(7) Long-term market transformation indicator intended to encourage EEUs to design and implement efficiency initiatives that maximize market transformation, especially given that the Order of Appointment structure provides an opportunity for long-term planning. Consistent with the 2012-2014 QPIs, the Department, BED, and VEIC recommend that the VEIC QPI framework have one residential and one commercial market transformation performance indicator. As BED operates in a smaller footprint, the recommendation is that BED's QPI framework have one market transformation performance indicator.

(8) Equity for all electric ratepayers indicator intended to ensure equity for all Vermont electric ratepayers as a group by assuring that the overall electric benefits

9. The performance indicators developed for the 2012-2014 performance period for VEIC include targets for summer savings in geographic-targeted areas in St. Albans and Susie Wilson Road. BED currently does not have performance indicators for geographic targeting.

are greater than the costs incurred to implement and evaluate the EEUs. This metric would measure total verified electric benefits divided by total costs.

(9) Equity for residential ratepayers indicator intended to ensure equity for residential customers by assuring that a minimum level of overall efficiency efforts, as reflected in spending, will be dedicated to residential customers. This metric would measure the percent of total spending in the residential sector.

(10) Equity for low-income customers indicator intended to ensure equity for low-income customers by assuring that a minimum level of overall efficiency efforts, as reflected in spending, will be dedicated to low-income households. This metric would measure the percent of total spending on low-income services.

(11) Commercial customer size equity indicator intended to ensure equity for smaller non-residential customers by assuring that a minimum level of overall efficiency efforts will be dedicated to small commercial accounts. This metric would measure the total number of non-residential accounts with an annual electric use below an agreed-upon amount.

(12) Geographic equity indicator intended to ensure geographic equity for all Vermont electric customers by assuring that, for the appropriate portion of efficiency efforts (non-geographically targeted), energy efficiency benefits are distributed on a geographically equitable basis. This metric would measure the level of the total resource benefits achieved for specific geographic areas of the state. This metric does not apply to BED.

(13) Administrative efficiency indicator designed to measure the administrative efficiency of energy efficiency delivery including but not limited to the efficiency of an EEU's key business processes.

(14) Service quality indicator designed to measure service quality as specified in Board-approved Service Quality and Reliability Plans ("SQRP") for EEUs that are not distribution utilities (as is the case for VEIC). An EEU that is also a Distributed Utility may be subject to performance requirements in a Board-approved SQRP, however, these requirements are not recommended as part of the QPI framework because the mechanism for tracking performance takes place outside the QPI framework (as is the case for BED).

(15) Performance period spending indicator is designed to promote adherence, while providing appropriate flexibility, to Board-established performance-period budgets and goals. The Board is considering an indicator addressing performance period spending for the 2012-2014 performance period in proceeding number EEU-2011-04.

Summary of Comments

VELCO and GMP filed comments suggesting that a new QPI be considered to achieve reductions in average monthly coincident peak. VELCO recommends the inclusion of a QPI aimed at verifiable, sustained reductions in Vermont's average monthly coincident peak for each month of a June-May year, as this has the likely potential of reducing Vermont's share of the region's electric transmission charges (the Regional Network Service or "RNS" charge).

The Department, after an initial meeting with VELCO, VEIC, and BED, believes the concept of a QPI to lower "monthly peaks" may have tangible benefits to ratepayers. The Department suggests that the concept be explored further in order to assess and document: (1) how this metric may change the otherwise anticipated measure mix for the next three and 20-year forecasts; (2) the possible short- and long-term methods for calculating and implementing such a metric; and (3) the effect of this metric's potential interaction with other performance indicators. The Department notes that the concept of this QPI may be an appropriate topic for discussion at the Board workshop on scenario modeling results currently anticipated to occur on December 19, 2013.

VEIC filed comments stating that more QPIs are not necessarily more effective than fewer QPIs because an increased number of QPIs can lead to a diffusion of the energy efficiency implementer's focus. In addition, VEIC contends that the managing and tracking of an increased number of QPIs can result in increased administrative and financial burdens, and will require the setting aside of additional compensation. VEIC suggests that one factor to consider when prioritizing QPIs is the accuracy of the QPI measurement, and those that are measured directly, such as annual incremental energy savings, are more accurate than those measured by proxy, such as business comprehensiveness. VEIC indicates that, although Efficiency Vermont has taken steps to improve its tracking system capability to report premise-level versus project-level energy savings, challenges remain to accurately query data to ascertain premise-level business comprehensive treatment over time. Consequently, VEIC recommends that, if the Board decides to limit the number of QPIs in the 2015-2017 performance period, the business comprehensiveness QPI should be eliminated.

Discussion

The Department, BED, and VEIC agreed that the framework to develop electric QPIs should include the above fifteen identified QPIs. These categories are consistent with the performance indicators developed for the 2012-2014 performance period for VEIC. These categories are also consistent with the performance indicators developed for BED for the current performance period, except for the geographic equity indicator (which does not apply because BED does not offer geographically targeted services).

VEIC questions the need for a business comprehensiveness QPI, given the challenges to accurately query data to ascertain premise level business comprehensive treatment over time. We request that participants further examine the need for this QPI, especially given the concerns that managing and tracking an increased number of QPIs can result in increased administrative and financial burdens to the efficiency provider.

We agree with the recommendations concerning the inclusion of new QPI to achieve reductions in average monthly coincident peak. We request that participants work together to explore the concept of a QPI to lower monthly coincident peak because it may have tangible benefits to ratepayers.

Therefore, we determine that the electric QPIs shall address the following elements: (1) annual incremental MWh savings; (2) total resource benefits; (3) cumulative summer peak demand savings; (4) cumulative winter peak savings; (5) long-term market transformation; (6) equity for all electric ratepayers; (7) equity for residential ratepayers; (8) equity for low-income customers; (9) commercial customer size equity; (10) geographic equity; (11) administrative efficiency; (12) service quality; and (13) performance period spending. Depending on whether geographic-targeting efforts are continued, we determine that workshop participants shall develop QPIs that address geographic targeting. Participants should continue to examine the need for a business comprehensiveness QPI, and to further explore the concept of a QPI addressing average monthly coincident peak. Participants may file further recommendations for these two categories on or before December 6, 2013, and should be prepared to discuss them at the December 19, 2013, workshop.

B. TEPF QPIs

Participant Recommendations

The Department, BED, and VEIC recommended the following general categories of TEPF QPIs:

> (1) Overall MMBTU-savings indicator designed to encourage an EEU to design and implement efficiency initiatives that will maximize thermal-energy savings, which would be measured upon net incremental MMBTU savings achieved each year of a performance period;
>
> (2) Residential single family comprehensiveness-of-savings indicator intended to encourage an EEU to design and implement efficiency initiatives to maximize comprehensive treatment of buildings. In the 2012-2014 period the metric accounted for: (1) average air leakage reduction per project; (2) percent of projects with square feet of insulation added as a percentage of the homes' finished square feet of floor area; and (3) percent of projects with both shell and heating system measures installed. The Department, VEIC and BED recommend that the three individual methods for measuring this QPI be revisited for the 2015-2017 performance period.
>
> (3) Residential customer equity indicator intended to ensure equity for residential customers by assuring that a minimum level of overall efficiency efforts, as reflected in spending, will be dedicated to residential customers. The EEUs should be measured by a minimum percent of total TEPF spending in the residential sector.
>
> (4) Low-income participation indicator intended to ensure equity for low-income customers by assuring that a minimum level of overall efficiency efforts, as reflected in spending, will be dedicated to low-income customers. The EEUs should be measured by a minimum percent of total TEPF spending in the residential sector.

Discussion

All workshop participants who filed comments agree that the framework to develop heating-and-process-fuel QPIs should include: (1) overall MMBTU savings; (2) residential single family comprehensiveness of savings; (3) residential customer market-sector equity; and (4) low-income participation. These categories are consistent with the performance indicators developed for the 2012-2014 performance period for VEIC and BED. We conclude that the framework should include these four categories.

VI. CONCLUSION

In this Order, we determine that workshop participants should analyze the following electric efficiency scenarios:

- acquisition of all economically achievable potential through level budgets (adjusted for inflation) over twenty years;
- 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
- ramp up to and maintenance of acquisition of 3% savings relative to annual electric energy usage by year 2019.

In addition, we approve the electric scenario policy and modeling input assumptions jointly proposed by the Department, BED and VEIC.

We also determine that workshop participants should use the following framework to develop proposed electric QPIs: (1) annual incremental MWh savings; (2) total resource benefits; (3) cumulative summer peak demand savings; (4) cumulative winter peak demand savings; (5) long-term market transformation; (6) equity for all electric ratepayers; (7) equity for residential ratepayers; (8) equity for low-income customers; (9) commercial customer size equity; (10) geographic equity; (11) administrative efficiency; (12) service quality; and (13) performance period spending. Depending on whether geographic-targeting efforts are continued, we determine that workshop participants shall develop QPIs that address geographic targeting. We direct participants to continue to examine the need for a business comprehensiveness QPI, and to further explore the concept of a QPI addressing average monthly coincident peak. Finally, we determine that workshop participants should use the following framework to develop proposed TEPF QPIs: (1) overall MMBTU savings; (2) residential single family comprehensiveness of savings; (3) residential customer market-sector equity; and (4) low-income participation.

VII. ORDER

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

1. The following electric budget and energy savings "scenarios" shall be analyzed in this proceeding:

- acquisition of all economically achievable potential through level budgets (adjusted for inflation) over twenty years;
- 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
- ramp up to and maintenance of acquisition of 3% savings relative to annual electric energy usage by year 2019.

2. If Associated Industries of Vermont or any other entity elects to model additional scenarios, it shall file its modeling results on or before the December 6, 2013, deadline previously established for filing modeling results. If such modeling results are filed, they shall be discussed at the workshop to be held on December 19, 2013.

3. The electric scenario policy and modeling input assumptions jointly proposed by the Vermont Department of Public Service ("Department"), the City of Burlington Electric Department and Vermont Energy Investment Corporation on August 15, 2013, as modified by the Department's September 10, 2013, filing, are approved.

4. Workshop participants shall use the following framework to develop proposed electric quantifiable performance indicators ("QPI"): (1) annual incremental MWh savings; (2) total resource benefits; (3) cumulative summer peak demand savings; (4) cumulative winter peak demand savings; (5) long-term market transformation; (6) equity for all electric ratepayers; (7) equity for residential ratepayers; (8) equity for low-income customers; (9) commercial customer size equity; (10) geographic equity; (11) administrative efficiency; (12) service quality; and (13) performance period spending.

5. If geographic-targeting efforts are continued, workshop participants shall develop QPIs that address geographic targeting.

6. On or before December 6, 2013, workshop participants may file further recommendations on the need for a business comprehensiveness QPI, and the concept of a QPI addressing average monthly coincident peak. Workshop participants shall be prepared to discuss any such further recommendations at the workshop scheduled for December 19, 2013.

7. Workshop participants shall use the following framework to develop proposed thermal efficiency and process-fuel QPIs: (1) overall MMBTU savings; (2) residential single family

comprehensiveness of savings; (3) residential customer market-sector equity; and (4) low-income participation.

Dated at Montpelier, Vermont, this 30th day of September, 2013.

s/ James Volz	)	
	)	PUBLIC SERVICE
	)	
s/ David C. Coen	)	BOARD
	)	
	)	OF VERMONT
s/ John D. Burke	)	

OFFICE OF THE CLERK

FILED: September 30, 2013

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)