Vermont Energy Investment Corporation

Non-Resource Acquisition Description and Budget Proposals

EEU-2013-01 (EEU Demand Resources Plan)

NRA Categories

Education and Training
Applied Research and Development
Planning and Reporting
Evaluation
Policy and Public Affairs
Information Technology
General Administration

Appendix A – Potential Outcomes

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NRA Categories

Education and Training Proposed Budget $2,564,500

1. Codes and Standards Support: Residential and Commercial / Industrial $210,000

Code support and training improve the overall level of building code compliance, contractor and building operator understanding, and construction practice. Energy code information and training help promote energy efficiency practices and awareness of energy-related issues. Topics are primarily: how energy is generated and the cost of that generation, efficient building materials, sustainable design choices, and best practices in building operations and maintenance. Efficiency Vermont Code Support also contributes to moving construction practices to an energy efficiency level higher than that required by code. VEIC's budgets reflect a ramp-up of Energy Code outreach every three years (or whenever a new version of the Energy Code is released). The amount of time spent on informing builders, town officials, and trade allies will likely decrease in subsequent years until a new version of the Energy Code goes into effect. Efficiency Vermont Code Support services will be designed to complement all Public Service Department activities funded through Code Support work.

With regard to building energy standards, Vermont Residential and Commercial Building Energy Standard support work involves:

1. Residential and Commercial specialist staffing at the Energy Code Assistance Center, mailing code information to the building community and answering the hotline for general and technical code inquiries.
2. Energy code training for builders, architects, design, and construction professionals.
3. Energy code training for market partners (real estate professionals, mortgage lenders, appraisers, attorneys).
4. Energy Code trainings for town officials, Regional Planning Commissions, and Act 250 District Commissions.
5. Distributing code books and other code support material.
6. Providing code development support, including analysis and consultation on potential code change impacts and processes.
7. Distributing information on building code at home shows, industry conferences, and other such events.
8. Outreach to local Energy Committees.

Budget Analysis

Actual Efficiency Vermont costs in 2012 were lower than budget because a no-cost extension of a 2011 federally funded grant allowed outreach and training activity to continue into 2012. Efficiency Vermont had not expected, when it was creating the 2012 budget, that unobligated funds from the ARRA Energy Code Outreach and Education grant project through the Public Service Department would be available in 2012. Now that the project is complete and in the absence of further federal funding, Efficiency Vermont anticipates an average annual budget of $70,000.

Residential Codes and Standards Support - NRA Activity

1. Energy Code Assistance Center
   a. Technical assistance
   b. Writing, producing, and distributing code materials
2. Energy code trainings and market partner support
   a. Training for building professionals, real estate professionals, and municipal staff
   b. Advisory support for market groups and partners
3. Supporting energy code updates
   a. Energy modeling
   b. Feedback to contractors and building operators on proposed efficiency levels, informed by experience in the field
   c. Participation in stakeholder meetings

Residential Codes and Standards Support – RA Activity.

None.

Commercial Codes and Standards Support - NRA Activity

1. Tasks parallel those listed above, with some variation in scope and details (audiences, messaging and volume of traffic).
2. Create and produce code books and brochures as outreach materials.
3. VEIC occasionally provides code assistance to Vermont agencies and market partners. In 2013, we assisted the Natural Resources Board as they looked for input on Commercial Building Energy Standards (CBES) / RBES, stretch code options, and code training sessions for their Act 250 district commissioners. Inquiries about code policies, local addenda to the codes, and planning questions also come to us through town energy committees and Efficiency Vermont Commercial and Industrial (C&I) account management. Response to those inquiries is typically more complex and lengthy than fielding an Energy Code Assistance Center (ECAC) call about a project. These are opportunistic expenses, and are separate from planned training tasks.

Commercial Codes and Standards support – RA activity

1. Code assistance on Efficiency Vermont-enrolled projects is treated as Resource Acquisition (RA) work. The work is similar to support available through the ECAC. If a customer has a code question for a non-enrolled project, responding to it is treated as NRA work.

2. Energy Literacy Project $658,800

Through greater awareness and understanding of what energy is, how it is used, and the consequences of energy consumption, the Energy Literacy Project (ELP) strives to inspire personal lifelong commitments to energy efficiency, conservation, and stewardship for all generations of Vermonters. The ELP's objectives are:

- Promoting energy education and literacy in K-12 market
- Transforming energy-related behaviors of students and staff at participating K-12 schools
- Compelling the K-12 community to apply energy literacy beyond the classroom by:
  - making informed and responsible decisions regarding energy use at home
  - participating in Efficiency Vermont programs beyond school-specific offerings

Transforming the energy use behavior of building occupants is one of the three main approaches promoted through Efficiency Vermont's K-12 strategy called Project Green School (PGS). PGS is a collaboration among Efficiency Vermont and Vermont-based K-12 associations, non-profit organizations, government agencies, and utility providers. Using data from Efficiency Vermont's 2014 Statewide K-12 Energy Benchmarking Project, and from the 300+ energy audits completed at Vermont schools since 2007, Project Green School engages the K-12 community to develop energy specific goals Efficiency Vermont's support to create customized Energy Action Plans to address each school's unique energy profile and interests, reducing energy costs and ultimately meeting and exceeding the Environmental Protection Agency's ENERGY STAR® standard for school energy efficiency. As one of PGS's three key strategies, Energy Action Plans will involve strategies for student engagement and occupant behavior affected by the ELP implementation contractor, in addition to operations & maintenance actions, and capital projects (that is, equipment and renovations).

All ELP methods will be evaluated for impact toward overall goals, and adjusted as necessary to maximize performance. The ELP implementation contractor reached 5,600 of Vermont's 90,000 students in 2013.

Budget Analysis

The budget primarily covers the implementation contractor's costs, with a 0.25 FTE for an Efficiency Vermont program manager.

Energy Literacy Project – RA Activity

None.

3. General Public Education $412,100

General Public Education builds general awareness of energy efficiency, but is not tied to any program goals. The principal objectives of this initiative are to increase public awareness of the value and services of Efficiency Vermont and of the benefits of energy efficiency, and to establish and leverage relationships with strategic partners whose missions align with the overall objectives of Efficiency Vermont. The objectives for this public awareness initiative are accomplished through the following representative activities:

1. Development and distribution of general consumer information materials, such as seasonal energy-saving tips; home and business energy use guides; Efficiency Vermont's e-mail newsletter, *Watts New;* and Vermont-specific industry trends and innovations presented via Efficiency Vermont's ENERGY. FORWARD blog.
2. Consumer engagement through participation in and sponsorship of mission-aligned events throughout the state.

This type of information sharing and outreach is consistent with the Vermont Public Service Board's directive for the energy efficiency utilities (EEUs) to "provide general information to the public to (1) increase consumer awareness and understanding of the benefits of reducing energy use, and the best technologies available to them, and (2) refer them to information and resources other than the EEU" (Docket 7466 Order, 11/24/09, Finding 113). This type of "general information"—via partnerships and outreach to create awareness and understanding—is distinct from the information found in Efficiency Vermont program marketing materials. Those program materials promote participation in specific resource acquisition activities.

Quantitative and qualitative research, as well as Efficiency Vermont's direct experience with Vermont ratepayers and their families, has shown that customers do not always differentiate between program-specific information and general information. For example, general customer inquiries regarding energy efficiency and its benefits can lead to discussion of specific Efficiency Vermont programs and services. Similarly, customer inquiries regarding a specific program or initiative frequently lead to engagement around simple, low- or no-cost steps customers can take to reap the benefits of efficiency in their homes and businesses. This lack of differentiation by customers reinforces the case for the complementary activity of disseminating general information and offering specific services. The result is that Efficiency Vermont is meeting customer needs in a cost-effective manner as efficiently and effectively as possible. Examples of this approach and its effects are:

Efficiency Vermont's presence at home shows and energy fairs involves information about efficient lighting and home energy audits (and promotion of available rebates and incentives), along with general energy efficiency information and materials. Efficiency Vermont staff working these events field general energy efficiency questions and program-specific questions from customers.

Efficiency Vermont blog posts, published one to two times per week, feature policy and public affairs topics, information on programs and industry innovations, and updates.

The Efficiency Vermont e-mail newsletter regularly features seasonal tips and general information (winter, summer; tax season, back-to-school), along with Efficiency Vermont events listings, program updates, and other relevant news.

In all cases, Efficiency Vermont is diligent about tracking and billing on the nature of the work. In all cases outlined above, labor and expenses are split respectively between RA and NRA project codes, as appropriate. All costs associated with a home show or an edition of the Efficiency Vermont e-mail newsletter, for instance, might be split three ways among EEC / RA, TEPF / RA, and NRA / General Public Education. Similarly, costs associated with the Efficiency Vermont blog can be billed to NRA / General Public Education, NRA / Public Affairs, EEC / RA, or TEPF / RA, according to the subject of each post.

To ensure that all information efforts have an optimal impact, VEIC strongly recommends that pre- and post-testing of customer insights support the creation of targeted messaging and materials, and to measure their effectiveness and the time it takes to revise materials. Efficiency Vermont is committed to continuous improvement and relies on the data and insights gleaned from these evaluations to consistently deliver high value to customers.

Budget Analysis

The NRA budget for public information consists primarily of labor costs (including marketing staff time) and membership / association / sponsorship fees.

In addition, VEIC introduced new forms of communication and outreach, including the initial creative development of a general Efficiency Vermont brand campaign, the new Efficiency Vermont blog, and a new Efficiency Vermont booth for public events that were not accounted for during the previous three year budgeting process.

Overall, we anticipate that this budget will delve more deeply into information about "big data" and the additional value they add to the overall energy efficiency dialogue.

General Public Education – RA Activity.

None.

4. BBD Conference $518,600

Efficiency Vermont hosts the annual *Better Buildings by Design* (BBD) conference in early February. More than 1,000 people attend this conference, which offers 40 workshops and involves 50 exhibitors. The conference brings inspiring best practices, technology, and professionals together to offer the following benefits to attendees:

Hear from the Experts

Participants find out what works, what doesn't, and what they can put into practice immediately through the research and experience of nationally recognized leaders in the field.

Strengthen Competitive Edge

Participants learn the latest techniques and technologies for superior building performance, energy efficiency, and indoor air quality. The 40 workshops are divided among four different learning tracks.

Make Key Contacts

Participants network with the region's top design and construction professionals, who share a common commitment to high-quality construction, energy efficiency, aesthetic integrity, occupant health and comfort, and environmental stewardship.

See the Latest Products and Services

Participants have sufficient time to talk to the exhibitors and sponsors displaying the latest residential and commercial building products and services.

Technical Workshops

Attendees participate in high-level and in-depth presentations throughout both days of the conference. Workshops are 90 minutes long, and are held concurrently across the four learning tracks: Building Envelope, Mechanical Systems, Lighting, and Innovations & High Performance.

Exhibit Hall Trade Show

Attendees see the latest developments and innovations in energy-efficient products and services for the design and construction industry. The trade show allows attendees to speak with service providers and manufacturers' representatives about high-performance techniques, materials, equipment, and systems for superior building performance, energy efficiency, and indoor air quality.

Annual participant feedback for the conference is always positive. Of the attendees who completed feedback forms after the 2014 conference, 100% rated the conference as "good" or "better" than other conferences in the following categories:

1. Overall quality of presenters

2. Overall informational content of the workshops
3. Overall quality of workshop sessions
4. Overall quality of the conference
5. Overall quality of the exhibitors

Budget Analysis

Overall, the annual budget for the BBD conference reflects the actual costs of for labor, subcontractors, and other direct costs during the year in which it is held. The annual budget represents the net cost after conference revenue, which is approximately $220,000.

BBD – NRA Activity

1. BBD program planning
2. BBD marketing
3. BBD operations logistics (registration, venue rental, sponsorships, etc.)

BBD RA activity

None.

5. Customer Support $765,100

Customer Support and Development responds to general questions and requests for information, training, and / or event staffing. This work primarily involves:

1. Responding to inquiries through the Efficiency Vermont contact center via phone, e-mail, and website chat
2. Event staffing (for example, home shows, energy fairs, farm shows)
3. Information presentations to community groups
4. Working with utility partners on customer-related training and communications

Budget Analysis

VEIC expects 2015-2017 budgets to be the same as projected 2012-2014 spending, adjusted for inflation.

Customer Support – NRA Activity

1. **Responding to inquiries** received through Efficiency Vermont's Contact Center: Consumer information about energy use, technologies, and general questions that are not directly tied to an Efficiency Vermont RA program. Time is billed to Customer Support NRA when the inquiry does not involve program opportunities and / or project enrollment. Examples:

- Information on conservation measures, such as thermostat setback or equipment settings and sizing advice
- Consumer awareness of electricity use for appliances and home electronics, and tips for reducing high electricity bills
- Meter loan processing and data interpretation
- Referrals to external information sources such as ENERGY STAR or the Database of Statewide Incentives for Renewable Energy (DSIRE)
- Collecting and entering customer feedback into the KITT database:
  - EEC (rate increases, purpose, questions about opting out)
  - Product feedback ("Efficiency Vemront should support XYZ product," mercury concerns)
  - Suggestions from non-participants for new programs / program improvements ("Efficiency Vermont should offer a program to better support commercial customers"; "Efficiency Vermont should do more with LEDs, not CFLs")
  - Non-participant program feedback (too many hoops, too much paperwork, rebates not high enough so customer didn't participate in program, but provided feedback)
- Staff training on current and emerging technology, customer service best practices, and customer engagement techniques

2. **Event staffing**: Customer Support staff who attend events will bill their time to NRA when their purpose for attendance is to answer questions and provide information materials for consumers. Sample activities are:
   1. Handing out information brochures, such as *Your Guide to Electrical Use in the Home* or seasonal energy efficiency tip sheets
   2. Signing up customers for a Watts Up meter, a device they can borrow to better understand the use of electrical devices in a home or small business
   3. Providing Energy Code information and compliance materials
   4. Offering referrals and resources to match the customer's needs, such as the local Weatherization Agency or Town Energy Committee.

Customer Support – RA Activity

- Verifying product eligibility—for example, under Prescriptive programs or under the Efficient Products program
- Helping customers complete rebate forms
- Contractor or retailer referrals—for example, via HPwES or Efficient Products
- Follow-up on active projects to expedite project completion
- Field verification of installed measures

Applied Research and Development Proposed Budget $1,235,600

1. Emerging Data Services $700,000

Inexpensive, abundant, and reliable data are beginning to transform the way energy services and research can be provided. Therefore, Efficiency Vermont must strategically plan how to use these data to deliver high value to internal and external customers, systems planners, and policy makers in changing energy markets and in the regulatory landscape. The associated benefits will increase the effectiveness of all energy efficiency services through resourceful approaches for obtaining business intelligence, analytics, and customer engagement that use multiple and varied data.

This budget category, previously known as *Applied R&D Advanced Metering Infrastructure (AMI) / Smart Grid,* enables Efficiency Vermont to continue leveraging the State's investment in smart grid infrastructure and other emerging data innovations, ensuring optimal energy efficiency benefits. The budget also addresses unique information technology investments in research and development. R&D is will help Efficiency Vermont to improve its ability to manage the collection of complex data and to build systems that make it possible to use data to help achieve energy savings goals.

The Emerging Data Services category explores new strategies, techniques, and / or technologies that show promise for increasing energy savings, decreasing delivery costs, and increasing customer engagement and satisfaction. VEIC particularly explores not-yet-proven approaches, given the custom nature of the programming—and its unparalleled maturity—in Vermont. VEIC also supports other research and investigations that are likely to lead to greater market transformation. Although this work will often use AMI data, it also involves data from energy sub-meters, environmental and process sensors, building energy management systems, demographic and real estate databases, and historical efficiency program activities.

The work of the Emerging Data Services category is ongoing, but it targets a specific outcome: Determining the value of an emerging data service. This exploration is currently an NRA activity. VEIC expects, however, that future work within this category will relate directly to RA programs and contribute to achieving energy savings. There are three basic conditions under which such a transition might occur:

1. **Investigating novel data applications for which no prior research exists:** Occasionally, VEIC staff considers an idea—involving either software, hardware, or a combination of both—that promises to lead to successful implementation of cost-effective data services. Efficiency Vermont will investigate the idea through "laboratory" research, to assess its application to efficiency programming. The study design for this kind of investigation, developed under the NRA budget, will enable the promotion of effective technologies to scale, under other (presumably RA) budget categories.

2. **Analyzing an emerging data application for which prior research does exist:** From time to time, VEIC staff recognizes that a promising data product or service can lead to more successful implementation of cost-effective program services. Efficiency Vermont will analyze existing research to determine the extent to which the approach should move directly into RA or other NRA categories. This condition does not involve an in-house “laboratory” approach.
3. Applications that can be supported by an RA budget. However, there might be other potential applications that Efficiency Vermont has in mind beyond those “proven” applications. VEIC will create and test such novel applications under the NRA category. That is, Efficiency Vermont will use the NRA category for investigation, development, and testing of new technology and approaches. It will use the RA category for the purchase of the validated technology platform, hardware, or software. Further, any of the resulting data services that prove successful would then be implemented at scale, using RA budgets.

Budget Analysis

The NRA activities involve costs for (1) managing the process for soliciting and approving R&D Emerging Data Services demonstration projects, and (2) all activities related to implementing approved projects. Project work involves all project planning, implementation, evaluation, and making recommendations for moving emerging data into regular programming practice.

Technology infrastructure and software expenses that progress from R&D to implementation in regular Efficiency Vermont programming fall under RA (or other NRA, as appropriate) activities.

2. Technology Demonstrations $535,600

Applied R&D funding supports applied research, development, and demonstration designed to optimize the creation of cost-effective solutions for meeting Efficiency Vermont’s long-term resource acquisition goals. Efficiency Vermont will plan these activities to advance the goals of sound product and program design over time, addressing three principal areas:

1. Field-testing new implementation strategies
2. Technology demonstrations
3. Research in emerging technologies and innovative efficiency implementation strategies

R&D activities are crucial to long-term resource acquisition savings. They are the key to exploring the next generation of energy savings technologies and enhanced customer engagement strategies. R&D-tested approaches that prove to be effective can then proceed into larger pilots with the goal of full integration and deployment through new or existing programs. These approaches are driven by the presentation of proposals for specified R&D projects.

Efficiency Vermont will report on R&D project plans each year as part of the Annual Plan process. Efficiency Vermont will also share the results of this research in the Annual Report and through other appropriate means.

Budget Analysis
The budget is based on VEIC's professional judgment of the annual amount needed to support a full pipeline of R&D projects.

Efficiency Vermont recommends increasing the annual budget for R&D – Technology Demonstrations from approximately $175,000 per year in the 2015-2017 performance period. This change reflects a modest budget increase that would allow us to better fund the type of proposals that have been submitted over the past three years. Experience has shown that although funding is typically sufficient to support the number of submitted projects, some of those projects have been somewhat underfunded because the R&D budget has been insufficient.

All activities in this initiative are NRA. They involve managing the annual process for soliciting and approving R&D demonstration projects, selection committee work, and all activities related to implementing approved projects. Project work involves all project planning, implementation, evaluation, and development of recommendations.

Technological Demonstrations – RA activity
None.

Planning and Reporting Proposed Budget $1,655,800

1. Annual Plan $153,000

As detailed in the draft *Process and Administration of an Order of an Appointment*, VEIC will prepare and submit to the Board an Efficiency Vermont Annual Plan by November 1 prior to the Plan year. The Annual Plan summarizes all planned service delivery strategies and service offerings, market initiatives, and any other planned implementation activities for the coming year. As applicable, the Annual Plan will set forth an integrated market strategy for at least the two primary market sectors: Business and Residential.

This category involve planning and development of filed document, as well as tasks associated with coordinating plans with the Department, preparing and presenting plans to the Board.

Budget Analysis

The budget is based on historical Efficiency Vermont costs and is forecast at the same level as 2012-2014 spending, adjusted for inflation.

Annual Plan – NRA Activity

- Drafting narratives, spreadsheets, and other data to be contained in the final document
- Creating and producing the PowerPoint presentation for the Board
- Coordination with the Department
- Final review, production, and distribution of hard and electronic copies

Annual Plan – RA Activity

- Development of the internal operating budgets and implementation plans

2. Demand Resources Plan $600,000

This triennial plan for a 20-year period involves:

- Yearly EEU demand-side electricity resource and non-resource acquisition budgets and energy savings
- Quantifiable Performance Indicators to measure EEU results for the coming three-year performance period
- Budgets and plans for the Department's efficiency evaluation
- Plans and budgets for Non-Resource Acquisition activities
- EEU compensation and performance award structure
- Yearly budgets and energy savings goals for Thermal Efficiency Process Fuels (TEPF) activity for a 10-year period

The Board's triennial Demand Resources Plan Proceeding (DRPP) is a public process in which the Demand Resources Plan will be determined by the Public Service Board Order after receiving input from all interested stakeholders. The proceeding involves public workshops to facilitate stakeholder, Department, and EEU input; and public dissemination of information and data used to establish the DRP. The proceeding can involve consideration of new market realities and technologies, subject to agreement among the Board, Department, and the EEUs. It can also involve adaptations of the EEU role. Together, these considerations to best serve the interests of Vermont ratepayers relative to evolving market realities.

Budget Analysis

The budget is based on VEIC's estimate of the level of effort to plan, draft, review, and collaborate with the Department and its consultants to plan and develop resource acquisition modeling scenarios, and file demand resources plans. It also estimates the level of effort to participate in a DRPP. Since the DRPP is a public process responsive to stakeholder input, the actual scope of work to be performed cannot be predicted with certainty. It is reasonable to anticipate changes to the scope of work, based on stakeholder requirements. The cost estimates presented in the NRA budget spreadsheet do not include contingencies for such changes. Instead, and are based on the understanding that such changes will be reflected in appropriate budget revisions if and when scope changes are defined. The DRPP cost estimate covers work to support the planned proceeding effort and schedule. The DRP and DRPP cost estimates are combined in this initiative's total.

Given the expanding complexity of the DRPP and expectation for analyzing strategic electrification strategies and tactics, we are basing the 2015 – 2017 budget on the 2012 – 2014 budget estimate, with inflation added.

All activities primarily comprise planning for and creating 10-year TEPF and 20-year electric resource forecasts. Other NRA activities involve working with the Department to negotiate performance metrics.

Demand Resources Plan – RA Activity

None.

3. Participation in State and Regional Integrated Planning $137,700

As a participant in the Vermont System Planning Committee (VSPC) and pursuant to the Memorandum of Understanding (MOU) in Docket 7081, VEIC will attend meetings and assist in fulfilling subcommittee charters. In addition, pursuant to that MOU's paragraph 61, Efficiency Vermont will provide the Board, the Department, and Vermont's utilities with estimates from the 20-year projections of electric energy efficiency savings expected to be achieved from system-wide programs in 2014 and every third year thereafter. These estimates will be differentiated among the 16 load zones developed by the VSPC, and are known as *Forecast 20.* The framework of the DRP provides the foundation and assumptions for that forecast and a triennial Forecast 20. Efficiency Vermont will also support the VSPC's updated process reflecting the interrelationship among the three regulatory streams that govern the work of the VSPC: (1) reliability planning in Docket 7081, (2) energy efficiency geographic targeting, and (3) standard offer geographic targeting in Docket 7873. In particular, this work involves input to solution selection, cost allocation, and implementation planning of all identified reliability deficiencies as required by the MOU.

Budget Analysis

The budget indicates a slight increase from Efficiency Vermont's historical spending for VSPC participation, because of increased demand for subcommittee attendance in VSPC geographic targeting, forecasting, and public participation activities.

VSPC – NRA Activity

- Efficiency Vermont staff participation in and preparing analyses and presentations for full VSPC meetings and VSPC subcommittee meetings.

VSPC – RA Activity

None

4. ISO New England FCM Administration $397,900

As the implementer of one of the state's EEUs, VEIC will continue to represent the interests of Vermont ratepayers by participating in the ISO New England (ISO–NE) Forward Capacity Market, the region's wholesale energy capacity market. VEIC will prepare and submit bids to provide Efficiency Vermont's capacity savings as a Demand Resource in annual Forward Capacity Market auctions. The activities associated with participation are capacity forecasting, resource qualification, bid development, and auction bidding. VEIC will track and report resource development, submit claims during capacity delivery periods, deliver reports to ISO-NE and Vermont stakeholders, and undertake all other activities required to support this market participation. VEIC will perform all necessary administrative and fiscal activities associated with these responsibilities, including budgeting and revenue forecasting. VEIC will also continue to participate in rule-making processes established by ISO-NE regarding the establishment and operation of the Forward Capacity Market and other responsibilities associated with being a New England Power Pool (NEPOOL) member. ISO-NE membership and participation fees are also included in this category.

Budget Analysis

The budget is based on Efficiency Vermont's historical ISO New England FCM participation spending. Specific IT support for FCM participation is budgeted separately, and not included in the general IT budget because of FCM cost reimbursement protocols.

Forward Capacity Market – RA Activity

None.

5. External Reporting $367,200

All required regulatory reports associated with Efficiency Vermont activity are captured in this budget line item. At a minimum, these reports are submitted to the Department and to the Board:

1. The Annual Savings Claim—submitted each spring
2. The Highlights brochure—submitted each spring
3. The Annual Report—submitted each fall

4. Efficiency Vermont Monthly and Quarterly Reports
5. Customer complaint reports—submitted Budget Variance Report in February
6. Ad hoc reporting requests
7. DPS Financial Audit
8. DPS monthly invoice review and support from Finance
9. Financial component of Overall Performance Assessment

Budget Analysis

The budget is based on historical Efficiency Vermont costs and is forecast at the same level as 2012-2014 spending, adjusted for inflation.

External Reporting – NRA Activity

- Drafting narrative, spreadsheets, and other data to be contained in reports
- Coordination with the Department on changes or questions
- Final review, production, and distribution of hard and electronic copies

External Reporting – RA Activity

None

Evaluation Proposed Budget $2,693,200

1. Annual Savings Verification $153,000

The annual savings verification budget was developed from the 2009 annual savings verification agreed upon between the Department and Efficiency Vermont. The budget depicts only Efficiency Vermont costs and does not include the costs of the Department's annual savings verification. The budget is broken down into three categories.

1. Savings Preparation

This work involves the initial conference between the Department and Efficiency Vermont, and several steps with the Efficiency Vermont customer database (KITT): reconciliation, freezing, and providing the Department with a snapshot of the savings database. The Department generates the savings sample plan and provides Efficiency Vermont with a detailed list of projects it wishes to review. The Department provides preliminary project reports to Efficiency Vermont.

2. Savings Review

Upon receiving the preliminary project report results from the Department, Efficiency Vermont creates responses for each project, and provides the Department and its subcontractor, West Hill Energy & Computing, with additional data and engineering assumptions used to calculate energy savings. The scope of the Savings Review can range widely, depending on the number of custom projects reviewed and the number and type of general questions. The scope can also vary from year to year, depending on the total number and types of projects closed. The number of custom projects selected for review typically ranges from 70 to 100 per year.

3. Savings Finalization

Efficiency Vermont and the Department meet in a Savings Finalization conference in early June to resolve any outstanding project and program issues highlighted in the preliminary findings. After the conference, Efficiency Vermont begins developing the "realization" spreadsheets to be applied to its KITT database. Staff modify data tools for future custom projects where appropriate, and update and revise prescriptive screening tables to reflect the savings verification outcomes.

Budget Analysis

VEIC anticipates the 2015-2017 budgets will be consistent with 2012-2014, adjusted for inflation.

See also the description following the *Technical Reference Manual* section

2. Technical Advisory Group $419,300

The Technical Advisory Group (TAG) resolves issues that arise from annual savings verification and serves as a proactive mechanism to develop energy characterization and savings calculations. The TAG ensures that the most accurate savings claim methods are applied to each year under the Efficiency Vermont contract. The TAG budget was developed from 2010 activities and involves the following five categories:

1. TAG Coordination

TAG coordination consists of scheduling monthly meetings, updating the TAG tracker, and coordinating communications around proposals and responses.

2. Measure Characterization Proposal Preparation

Characterizing new measures involves coordination and collaboration between Efficiency Vermont and its subcontractors to address specific issues. This coordination and collaboration can involve general scoping meetings, measure research, and surveys that provide information to shape programmatic proposals.

3. Proposal Review

All programmatic proposals are required to go through a formal review process, using Efficiency Vermont expertise in measurement and markets, as well as subcontractors who have had similar experience in jurisdictions outside Vermont.

4. Proposal Discussions

Proposal discussions are carried out after Efficiency Vermont receives an official response from the Department. Discussions involve small workshops to determine problem-solving steps for addressing substantive issues.

5. Adjustments Due to Outcomes

Assumptions and measure characterizations in Efficiency Vermont's KITT database and energy analysis tools need to be modified and revised after agreement has been reached between the Department and Efficiency Vermont. This activity is a collaboration among Efficiency Vermont's Information Technology department, Operations, and technical staff.

Budget Analysis

Overall, Efficiency Vermont anticipates that this budget will increase, primarily due to the changing ways in which Efficiency Vermont approaches energy savings. The Department has asked that Efficiency Vermont undertake a higher number of internal evaluations.

Adding in these requested evaluation activities for RA programs and initiatives increases the budget to $140,000 per year—approximately $420,000 over the three-year period.

See also the description following the *Technical Reference Manual* section.

3. Technical Reference Manual $1,009,900

The budget for the *Technical Reference Manual* (TRM) assumes there will be more frequent and rigorous annual TRM review across the three-year period. This enhanced review is the result of a TAG agreement in 2010 to enhance TRM reliability. The TRM budget has five categories:

1. TRM Management

This activity involves managing portfolio submissions and updating the TRM tracker. TRM Management also involves the re-characterization of measures and savings methods to be applied to Efficiency Vermont's prescriptive tools for savings upload and calculation. This activity also involves the annual release of the updated Efficiency Vermont TRM.

2. TRM Development and Research

Revisions to the TRM reflect research in new technologies and changing market conditions. All measure characterizations require considerable research, ensuring that all characterization accurately reflects the most current savings determination methods that incorporate efficiency evaluation findings from other states and those at the national level.

3. TRM Updating

This activity involves the annual updating of existing measure characterizations, based on findings during savings verification. It also involves changes to baselines or potential market transformation as a result of new evaluations.

4. TRM Review

Efficiency Vermont internally reviews all updated TRM measure characterizations prior to submitting them to the Department for comment and approval. The review group comprises technical staff, planning and development managers, and subcontractors. This activity also involves yearly review of older TRM characterizations that could be reaching obsolescence. In such cases, the TRM characterizations might be identified for update or removal from the TRM.

5. TRM Meetings and Workshops

These meetings are between Efficiency Vermont staff and Department staff, and are convened as needed. The budget assumes the historical frequency of these meetings.

Budget Analysis

For 2015-2017, VEIC includes pilot costs for new measures such as circulator pumps and heat pump water heaters. The Department agrees that this approach is necessary under conditions of variable savings and a high degree of uncertainty.

- An estimate for one pilot initiative (assumes 40 site visits):
    1. Initial measure research
    2. Development of an M&V plan
    3. Scheduling onsite M&V deployment (calling, coordinating, etc.)
    4. Data analysis and finalizing the report
- Cost per pilot = $10,725
- Assuming three pilots per year, the cost is $32,175.
- Across three years of pilot activity, the budget is $96,525
- Routine TRM management, development, maintenance, and other routine duties = $238,000 per year, with a 3% annual inflation factor for the two other years. This adjustment is an average. There are years in which the Northeast Energy Efficiency Partnerships, which supports the use of consistent EM&V protocols releases many evaluations; the sometimes frequent NEEP revisions require Efficiency Vermont to revise its TRM to reflect the latest assumptions.

Savings Verification, TAG, and TRM – RA Activity

- Any of the above activity when it is not related to a TAG discussion (that is, it is not on the TAG tracker)
- Activity not related to TRM work (no development request)
- Savings verification (not year-end quality assurance for savings verification and not part of the savings verification coordination activities)

Staff use the following guidance when billing to Efficiency Vermont RA, and not to Evaluation NRA:

1. Custom Project Support: Analysis methodology review, loadshapes, baselines, free-ridership / spillover effects, project characterization, hours of use, etc.
2. Monthly custom project quality assurance: Sample selection , project reviews, and monthly reporting
3. Tool review, modifications, and new tool requests (energy analysis and data analytics)
4. Technical Review: Marketing, Policy department, and Efficiency Vermont external communications that involve dissemination of savings values.
5. Internal evaluation support: Sample design and development, measurement and verification plans, evaluation analysis, and reporting
6. Efficiency Vermont staff meetings
7. Routine helpdesk requests: JIRA system
8. Writing EM&V protocols and guidelines, and implementing them
9. Custom metering data review and analysis support (not related to Forward Capacity Market activity)
10. Technical training: Coordination with and presentations to Efficiency Vermont staff
11. Pre-TRM new-idea meetings (go / no go discussions pre-TRM Development): Meetings and custom screening analysis and support
12. New ideas research: Review of evaluations to see what opportunities Efficiency Vermont can adopt; these opportunities are typically presented by Program Managers

4. ISO-NE FCM Metering, and Monitoring and Evaluation $811,000

VEIC's performance as a NEPOOL Market Participant in the ISO New England Forward Capacity Market is measured via an annual sampling plan for small, medium, and large Efficiency Vermont custom business projects. This budget is based on historical costs incurred for required FCM evaluation activities. The ISO New England measurement and evaluation budget has four activities:

1. Measurement and Verification Implementation
   VEIC develops and reviews metering plans to ensure that the correct approach is implemented for the selected large projects identified in the sampling plan. The budget involves costs of implementing the metering plan, installing meters on customer equipment, collecting metered data, and removing the meters.

2. Measurement Review
   All project meter data undergo review for reliability and validity. This involves analyzing meter data at 15-minute intervals across a season, with an average of two weeks' data. VEIC also reviews engineering assumptions and measure characterizations, when required.

3. Measurement and Verification Finalization
   As in the annual savings verification process, Efficiency Vermont technical personnel calculate realization rates and apply to the appropriate databases. Efficiency Vermont analysis tools might be amended to reflect updated measure assumptions.

4. Equipment and Calibration
   To meter projects identified in the sampling plan, VEIC routinely purchases metering equipment to conduct testing and analysis for Efficiency Vermont. Occasionally, because of the unique nature of the measure, we fabricate specialized equipment. ISO New England requires all such equipment to be NIST calibrated. This budget reflects the costs associated with both meter calibration and the scheduling of meters for selected projects.

Budget Analysis

The 2015-2017 budgets reflect an increase of approximately 18% over the 2012-2014 budgets, for the following reasons:

- Increased level of rigor imposed on Efficiency Vermont by third-party evaluators
- Purchase of FCM-compliant equipment for larger customers, for permanent installation in customer sites, to minimize disruptions related to meter installation and retrieval
- Additional time is needed to evaluate increasing amounts of available data accessible from Efficiency Measurement System (EMS) and Advanced Metering Infrastructure sources;
- Increased rigor in safety training for staff and safety protocols for on-site meter deployments.

ISO-NE FCM Metering and Monitoring – NRA Activity

- For the FCM: M&V results inform / confirm the savings analysis for projects greater than 25KW market opportunity New Construction or 44 kW retrofit.

- For the FCM: Fulfillment of metering requirements.
- For M&V or for an RA activity: Efficiency Vermont charges staff time related to data for M&V or savings calculations for an Efficiency Vermont RA activity to RA, even though FCM might benefit from this information.

As Efficiency Vermont does more in-program metering, the line between the NRA and RA becomes less clear and Efficiency Vermont may need to split where the time is charged.

ISO-NE FCM Metering and Monitoring – RA Activity

- Regulatory communications, coordination, and management. This role is primarily filled by EM&V staff.
    a. Verify calculations and analysis performed by the Department and / or subcontractors on individual projects
    b. Communicate the results to staff to improve efficiency of future FCMs
- Preparation and execution of the KW Verification Plan
- Proactively determine alternatives to metering
    a. Participation in loadshapes studies performed by NEEP or other utilities (National Grid, Efficiency Maine, etc.)
    b. Refer to the Department of Energy's Uniform Methods Project (UMP) or other protocols to justify using EMS data instead of physical metering, wherever possible
- Verification plan development: Meter plan; plan to use alternate forms of data: AMI data, direct digital control / supervisory control and data acquisition (DDC / SCADA) data, stipulated loadshapes, or some other data output. Regardless of verification methods, all FCM projects have a verification plan.
- Carrying out the verification plan: In the case of metering, prepare, install, and retrieve metering devices. In the case of other data forms, acquire data for presentation in a user-friendly format.
- Review, analysis, and documentation of verification data

5. Quality Management Program $299,900

Quality Management activities align with the Efficiency Vermont Service Quality and Reliability Plan (SQRP) and the Efficiency Vermont Administrative Efficiency Quantifiable Performance Indicator (Admin QPI) Plan. Quality Management provides support for SQRP and Admin QPI-related compliance and continuous improvement activities. It also supports, trains, and facilitates best-practice quality management tools and methods to process "owners" and subject matter experts.

SQRP

The SQRP establishes performance standards and supports associated reporting requirements for energy efficiency services provided by Efficiency Vermont. The SQRP was created in collaboration with the Department in 2011; the Plan became effective in January 2012. Under the SQRP, Efficiency Vermont is committed to meeting or exceeding performance metrics in four named service categories:

- General Customer Satisfaction
- Project Customer Satisfaction
- Incoming Call Responsiveness
- Complaint Rate and Resolution.

General Customer Satisfaction

Customer feedback drives Efficiency Vermont's quality management and conducts residential and business customer general satisfaction surveys, via independent, third-party research professionals every three years, to align with Efficiency Vermont's performance periods. Efficiency Vermont, the Department, and the third party work together to design the survey content and methods. The SQRP requires that satisfaction level "scores" achieved in both surveys meet or exceed performance benchmarks.

Transactional Customer Satisfaction

Efficiency Vermont surveys its customers upon completion of projects in various market segments, as a way of monitoring and improving core "transactional" performance. After a project is completed, customers rate the service they received on a 1-to-5 scale, in various service categories, with 1 representing poor service and 5 representing excellent service. The SQRP requires that for each market segment, the annual percentage of survey respondents with average service ratings of 3 (or better) meets or exceeds a performance benchmark.

Incoming Call Responsiveness

Efficiency Vermont strives to meet or exceed performance standards, and monitors that activity with automated tracking of all Efficiency Vermont calls received per fiscal quarter:

1. Average answer time
2. Average percentage of calls answered
3. Average percentage of abandoned calls

Complaint Rate and Resolution

Efficiency Vermont manages customer complaints in compliance with specific SQRP performance metrics:

1. Percent of complaint follow-up calls attempted by end of next business day
2. Percent of complaints closed within 12 business days of initial complaint call
3. For each reporting year, the ratio of total complaints received per total number of Efficiency Vermont participants

Efficiency Vermont tracks SQRP satisfaction and performance data very closely to monitor process health, identify performance gaps, and evaluate interest and satisfaction trends. Gaps and negative trends serve as an effective prompt for cross-functional root cause analysis and corrective actions.

SQRP – NRA Activity

All activities directly related to the management, tracking, and reporting of SQRP requirements and performance metrics are billed to the NRA SQRP code. Examples are:

1. Creation and delivery of residential and business customer general satisfaction surveys
2. Analysis and dissemination of residential and business customer general satisfaction survey results
3. Project satisfaction survey processing improvements
4. Contact center performance metric tracking and reporting
5. Complaint tracking and reporting
6. Quarterly and annual performance reporting
7. SQRP revisions and regulatory meetings

SQRP – RA Activity

None.

Admin QPI

Efficiency Vermont's commitment to a quality management approach maximizes ratepayer benefit. This approach thoughtfully balances program effectiveness concerns with administrative efficiency concerns. Efficiency Vermont considers a fair program effectiveness indicator to be an assessment of how well its program goals and objectives are achieved. *Effectiveness* in this sense is essentially synonymous with *impact, results,* or *outcome.* Efficiency Vermont considers administrative efficiency to be the maximization of program output achieved via the minimal employment of input resources. *Maximized administrative efficiency* is NOT synonymous with *optimized program effectiveness.*

The Admin QPI was created in collaboration with the Department in 2011, with the Plan becoming effective in January 2012. To ensure appropriate balance of program effectiveness and administrative efficiency concerns, the Admin QPI Plan establishes performance indicators under two main categories: Management Span of Control and Key Process Improvements.

Management Span of Control optimizes efficiencies while ensuring continued market impact and effectiveness. Efficiency Vermont systematically manages and tracks Key Process Improvement activities, according to Admin QPI-defined performance milestones. A third-party consultant evaluates performance. Following the completion of these milestones, VEIC and the Department will assess results and work together to create Admin QPIs for 2015 – 2017.

Efficiency Vermont has adopted and implemented a systematic approach to quality management by using best-practice tools and methods. Improvement initiatives are led by an empowered group of process "owners" and subject matter experts, chartered to analyze key processes and to systematically implement key process improvements, ensuring that Efficiency Vermont:

1. Carries out key processes that are most closely associated with the core competencies of an energy efficiency utility
2. Maximizes customer value and minimizes waste
3. Develops and maintains value-adding competencies and tools
4. Efficiently manages sub-processes via quality controls, performance metrics, and clear process ownership

Budget Analysis

Efficiency Vermont anticipates maintaining the same commitment of time, resources, training, and technical support to quality management in 2015-2017 as it maintained in the 2012-2014 performance period. The budget proposed is consistent with the 2012-2014 budget.

Admin QPI – NRA Activity

All activities directly related to the management, tracking, and reporting of AQPI requirements and performance metrics are billed to the NRA AQPI code. Examples are:

1. Staff training on Fundamentals of Lean (management principles)
2. Staff participation in AQPI value stream mapping events (6 value streams, 2 days for each value stream)
    - NOTE: VEIC bears the cost of third-party delivery of Lean training and facilitation of value stream events, since these are part of the overall VEIC Continuous Improvement program, in service to the entire organization
3. Staff participation in a post-value stream mapping event improvement (kaizen) team initiatives

- NOTE: Staff bill routine processing, management, and analysis tasks for the 6 AQPI value streams to their respective RA codes. Kaizen team work on these value streams, focusing on targeted process improvements and their associated metrics, is billed to the AQPI NRA code.

4. AQPI milestone tracking and reporting
5. Staff participation in audit activities carried out by Navigant Consulting
6. Quarterly and annual performance reporting

Admin QPI – RA Activity
None.

Policy and Public Affairs Proposed Budget $1,508,900

1. Public Affairs $612,100

Efficiency Vermont Public Affairs supports participation in important energy discussions in Vermont. It also conducts public outreach through the media and online to provide complete, timely, and accurate information regarding the work of Efficiency Vermont and regarding its customers. This participation occurs across a wide range of activity:

1. Working with government officials, regulators, businesses, and community organizations as a resource for information about energy, efficiency, and the EEU.
2. Briefing the Legislature on energy efficiency issues.
3. Assisting Legislators with review and development of policy proposals related to the Efficiency Vermont scope of work.
4. Working proactively with the media to develop stories that highlight how Efficiency Vermont benefits Vermont ratepayers, and how ratepayers can participate in and benefit from Efficiency Vermont services.
5. Creation, writing, and production of the Efficiency Vermont blog (http://www.efficiencyvermont.com/Blog) as a resource for information about Efficiency Vermont services and activities.
6. Development of white papers (http://www.efficiencyvermont.com/About-Us/White-Papers) that provide in-depth perspective on major Efficiency Vermont initiatives.
7. Planning, research, and development of media stories that recognize and publicize the experiences of Efficiency Vermont customers, particularly those in the business sector.
8. Promoting statewide recognition of Efficiency Vermont.
9. Meeting with potential partners to expand the influence of Efficiency Vermont's programs.

10. Presenting information about Efficiency Vermont at public forums and meetings

These activities enable Efficiency Vermont to ensure an understanding among policy makers and the public about the broad policy, statutory, and regulatory bases for the energy efficiency utility's work, and about the benefits it provides to state ratepayers. The media and online outreach on behalf of specific Efficiency Vermont customers provides additional value for those customers, above and beyond resource acquisition. This work is not necessarily driving specific customer participation activities, which is why it is classified as an NRA activity. Hours worked with media in support of specific programs (for example, a press release to promote a new LED incentive) are billed to the appropriate Efficiency Vermont RA program.

VEIC takes great care to ensure that its advocacy work is billed appropriately, as required by regulators. Per prior practice and discussion with the Department, the guidelines for how legislative public affairs costs are booked are as follows:

- When an information request is made to VEIC by the Legislature (testimony, briefing, etc.) regarding Efficiency Vermont, those costs (labor, expenses, etc.) are billed to Efficiency Vermont Public Affairs.
- When VEIC decides of its own volition to have a presence in the Legislature (for example, to follow a particular bill), those costs are billed to VEIC (even if it is related to a topic that is specific to Efficiency Vermont).
- When VEIC is making a presentation or monitoring an issue of interest that falls outside the scope of Efficiency Vermont (for example, transportation), those costs are billed to VEIC.

As presented by the Department at the time, these standards are consistent with how other utilities are expected to bill their lobbying time (for example, if the Legislature asks Green Mountain Power (GMP) testify or make a presentation, that cost is billed to ratepayers; otherwise, it is borne by GMP shareholders).

Budget Analysis

The Public Affairs budget is $200,000 in 2015, and adjusted for inflation thereafter. The 2015-2017 budgets are higher than those approved for 2012-2014. Experience has shown that the requirements for an effective public affairs function are more rigorous than what was known in 2011, when the 2012-2014 budgets were established. It also reflects the fact that some new activities began in the 2012-2014 period, affecting the overall Efficiency Vermont budget. In particular, Efficiency Vermont launched its own blog, which has proven to be very popular with customers. It is also an effective way to convey information about Efficiency Vermont services and initiatives.

Public Affairs – NRA Activity

1. **Working with legislators** and other policy makers to provide information and testimony regarding Efficiency Vermont programs, operation, results, and policies. This work is necessary to the operation of Efficiency Vermont as an accountable and regulated entity. None of this activity leads to savings, which is why it is categorized as NRA.
2. **Outreach to the public** via channels such as press releases and the Efficiency Vermont blog regarding broad Efficiency Vermont activities and initiatives that aren't related to specific resource acquisition activities (for example, building energy labeling, FCM participation). A significant portion of this work involves responding to many inquiries from the media. This work is important to helping the public understand the overall role of Efficiency Vermont in supporting Vermont energy policy and goals. None of it is directly related to resource acquisition, and is therefore categorized as NRA.

Public Affairs – RA Activity

Related to Activity 2, the Public Affairs team engages in public outreach or responds to requests related to specific Efficiency Vermont RA programs. This might involve a news release about a new rebate level for Home Performance with ENERGY STAR, for example. Because the news release directly supports an RA program, the cost for this activity is billed to that program.

2. Regulatory Affairs (non-DRPP) $596,800

Efficiency Vermont's Regulatory Affairs Division is responsible for:

1. Working with the Department to write, revise, and maintain governing documents necessary for the EEU to operate as a regulated utility. For example: the *Process and Administration of an Order of Appointment,* Standards of Conduct, Service Quality and Reliability Plan, Confidential Information Management System, and Intra-Company Cost Allocation Methodology.
2. Participate in Board proceedings that affect energy efficiency implementation in Vermont. For example: Act 89 proceedings, proceedings related to the Regional Greenhouse Gas Initiative (RGGI), VSPC proceedings, and AMI activity.
3. Review of and advice on regulator-required, coordinated services and initiatives with the other EEU and Weatherization agencies to provide seamless, cost-effective, statewide energy efficiency programs.
4. Report to external organizations such as ACEEE, CEE, and ISO-NE to help track energy efficiency results on regional and national scales.
5. Oversee VEIC interactions in the ISO-NE Forward Capacity Market to ensure regulatory compliance and help secure financial benefits from energy efficiency in New England.

6. Work closely with RGGI, Inc., to help inform the Model Rule, report greenhouse gas reductions as a result of Vermont's RGGI-funded programs, and help maximize efficiency benefits from the regional cap and trade.
7. Develop and support policy instruments that can serve as useful tools for electricity and thermal energy savings through voluntary action or government adoption.
8. Research regulatory policies to support best practices for efficiency programs to enable continuous improvement in Efficiency Vermont's services and support Vermont's prominence as a national leader in energy efficiency ideas and practices.
9. Pursue regulatory approval of flexible and robust strategies to cost-effectively avoid or control capacity and energy supply, in support of electric distribution utility Integrated Resource Planning.
10. Review and provide guidance on Efficiency Vermont internal policies to ensure regulatory compliance.
11. Manage regulatory requests for data, analysis, or comments.
12. Participate as a party in the review of triennial distribution utilities' Integrated Resource Plans, updating of avoided costs, and all other Board ordered proceedings that have the potential to impact energy efficiency services.

Budget Analysis

The Regulatory Affairs budget continues to expand in response to an increase in the number of regulatory proceedings, increased complexity of the proceedings, and additional requirements that result from the transition from a Contractor to a regulated EEU.

As required in the VEIC Order of Appointment, Efficiency Vermont has created many governing documents that require maintenance and periodic revision. Efficiency Vermont worked with the Burlington Electric Department and the Department to revise the *Process and Administration Document* of the Order of Appointment. Extensive revisions to this document have spanned more than a year, and have required significant investments in labor. Efficiency Vermont also developed Standards of Conduct, Intra-Company Cost Allocation Methodology, and an SQRP as part of its requirement under an Order of Appointment.

VEIC has also committed significant staff time to participating in recent Board proceedings, particularly Act 89 proceedings and the transition of Vermont Gas Systems to an EEU. In addition, Regulatory Affairs staff has helped secure interval data to support AMI integration with efficiency services.

Efficiency Vermont expects to expend significant resources in its requirement to perform an Overall Performance Assessment beginning in the latter half of 2015.

Regulatory Affairs – NRA Activity

All activities in this initiative are NRA. They involve working with the Department and the Board on Efficiency Vermont Order of Appointment regulatory issues, researching regulatory policy, managing regulatory related information requests, and other related activity

Regulatory Affairs – RA Activity

None.

3. Financial and Leveraged Product Development $300,000

This work supports the development and implementation of both financial and leveraged policies and products relevant to Efficiency Vermont's scope of work. These involve managing relationships with lenders and other financial partners to develop programs to finance energy efficiency investments. They also involve seeking non-Efficiency Vermont funds as a way of stretching the value of ratepayer funds in achieving higher levels of energy savings and ratepayer benefit. Funds secured through this category will allow Efficiency Vermont to serve more customers by helping them overcome first-cost barriers and diversifying services by obtaining unconventional funding sources.

As authorized by the Board, Efficiency Vermont is encouraged to seek non-Efficiency Vermont funds as a strategy for leveraging ratepayer funds from the Energy Efficiency Charge to achieve higher levels of energy savings and ratepayer benefit. The Board specifically notes that activity to secure non-Efficiency Vermont funding is to be allocated as NRA. Based on historical estimates for the costs of proposal identification, development, presentation, and other pre-award activities, this budget category provides for the pursuit of non-Efficiency Vermont funds for projects in three budget categories: "small" (less than $100,000); "medium" ($100,000 - $250,000); and "large" (greater than $250,000).

Budget Analysis

Annual expenses for 2015-2017 are expected to be approximately $100,000. This represents a significant decrease in budget from 2012-2014. It is assumed that as more of these financial products become available to customers, the costs will shift to Resource Acquisition activities.

Financial and Leveraged Product Development – NRA Activity

1. Advocating to financial institutions, utilities, and government leaders for reduced barriers to implementing financing mechanisms in support of energy efficiency projects. Example: Investigating on-bill financing mechanisms to help moderate-income households install energy efficiency improvements to their homes.
2. Research and analysis of barriers faced by customers in using financing mechanisms. Example: The residential market requires improving customer confidence in energy savings projections.

If successful, these NRA tasks will likely have subsequent RA costs and tasks for implementing and managing these programs.

Information Technology Proposed Budget $3,922,500

Strategic Technology Services, Analytics, and Reporting

Efficiency Vermont's IT initiatives support the collection, processing, and reporting of information critical to Efficiency Vermont efforts.

IT maintains and enhances an existing suite of custom software applications used by Efficiency Vermont staff, and develops software applications as the working environment and marketplace realities change in Vermont.

Some of the major custom software applications currently in use or in development are:

1. KITT. Efficiency Vermont's primary project management, customer relationship management, and energy savings tracking tool
2. RX Tool. Efficiency Vermont's calculations tool for prescriptive energy efficiency measures
3. HERO: HVAC Upstream Tool. Web-based data entry tool for HVAC vendors to report savings
4. HERO: HP. Web-based data entry tool for Home Performance contractors
5. Mobile Forms Suite. Software allowing paperless on-site data entry of information by Efficiency Vermont staff
6. Products tools. System for tracking savings from programs for efficient products
7. Retail mobile application. System available on mobile devices (iOS, Android) that is used by retail account managers in the field. Account managers use it to track information about their visits to retail establishments; this information ranges from contact data to product availability. The application is available for offline use when no cellular data is available and syncs with the KITT application when it gets back online.
8. TRM application. Used to manage the Technical Reference Manual characterizations in database format. Manages the characterization development workflow and includes functions for commenting and review and moving characterizations through the full lifecycle from draft to fully active. Will form the basis for a calculation engine and application programming interface (API) that will be used by other systems (KITT, CAT) when calculating savings.
9. CAT. Technical analysis has begun in 2014 for the migration of the CAT tool from its current form as a collection of Excel spreadsheets and Visual Basic for Applications (VBA) scripts to a web application that integrates with KITT and the TRM application. This will allow for improved workflow, better reporting for customers, and greater availability of project data for pipeline management.

10. **Online rebate applications.** Application functionality on the public-facing website, where visitors can apply for prescriptive rebates online. Integrates with KITT and allows for better customer experience than paper forms, automated project creation, and visibility into applications in progress for forecasting.

In addition to custom application work, IT supports a large number of other initiatives benefiting Efficiency Vermont programs and ratepayers. These initiatives are:

1. Supporting the integration of commercially available applications and works to ensure applications used by staff and ratepayers work seamlessly to create a positive customer experience. These efforts involve the integration of Energy Savvy and OptiMiser tools specifically designed to homeowner and contractor experience for Home Performance projects. Using the HPXML data transfer standard, project data will be transferred to KITT from these tools.
2. Supporting privacy and cyber-security efforts and enhancements to protect ratepayer personal information
3. Application training and support to Efficiency Vermont staff for Efficiency Vermont tools
4. Supporting business process improvements and increased efficiencies
5. Reporting, involving report development (other than monthly, quarterly, and annual reporting), maintenance of new reports, and updates to our self-service data cubes
6. Management and processing of utility data from electricity providers
7. Basic data quality assurance / quality control activities
8. Regular updates to program data, calculations, and maintenance of applications that collect data
9. Support for behavioral conservation programs being developed in 2014
10. Managing the process of AMI data transfer with a vendor; getting secure data transfer and import up and running
11. Managing the development of an AMI data warehouse with a vendor including other third party data sources like weather and parcel information.

During the 2015-2017 performance period, IT expects to take on the following large development efforts:

1 Migrating the KITT application to a Web application architecture
2 Developing APIs for KITT and TRM applications for integration
3 Re-development of regulatory (monthly, quarterly, and annual) reporting tools to increase efficiency by integrating financial and performance data
4 Re-development of our existing suite of Efficiency Products measure import and saving calculations tools

5 Potential specification and development of an efficiency forecasting and screening tool for demand resource planning.

Efficiency Vermont's technology efforts are focused on providing high value to ratepayers and partners. Major industry trends, like the proliferation of large amounts of data and new tools to develop customer insights with them, the booming marketplace of high-quality commercial software for efficiency programs and behavioral work, the increased demand for mobile user experiences, and increased customer expectation of high-quality online experiences are opportunities to provide this value. However, these efforts often require significant development efforts as well as the evolution of our tools and development methods. The significance of privacy and cyber-security cannot be overstated. With major breaches that have made national headlines, and with increasing consumer awareness of privacy concerns with their data, we expect to be doing significant work in these areas for the years ahead and this requires resources both in staff professional development, use of expert consultants for analysis and assistance, and modifying application use patterns and managing the change that goes with that.

Budget Analysis

Strategic Technology Services

The budget is likely to remain at its 2014 level, adjusted for inflation. There is an excellent technology foundation, but it will continue to require maintenance and development to continue to support a varied and complex set of activities, privacy, and cybersecurity work that will likely continue to increase and scope and intensity based on industry trends, continued automation and integration of tools like CAT and TRM, and development of a modern services based API architecture. Additionally, the responding to the opportunities for deeper efficiency work made potentially available with availability of AMI data.

Strategic Technology Services – NRA Activity

Strategic Technology Services bills all work to NRA codes, unless given explicit instructions to bill to RA codes. No instruction to bill to RA has occurred in recent history.

Major activities:

1. **KITT maintenance and development.** Software development work (requirements analysis, technical analysis and design, coding, user interface development, testing, release management, documentation, and training) to maintain and improve tools used to manage projects, track energy savings, and process rebates.
2. **HERO maintenance and development.** Same as above, but dedicated only to the Home Performance program.

3. **Scoping out new projects that involve technology or major changes or new features.** For example, investigating a request to create automated integration between ENERGY STAR Portfolio Manager and KITT or a request to generate XML output from the Mobile Home Data Form so it can be uploaded into REM/Rate and avoid a manual data entry step.

Strategic Technology Services – RA Activity

None.

Information Services

Information Services charges all non-regulatory reporting and savings verification-related reporting activities to IT-NRA. Although VEIC anticipates increased requests for reporting services in the 2015–2017 performance period, the Information Services portion of the Efficiency Vermont IT NRA budget is expected to remain flat during that time, even though new data collection, integration, reporting, and end user reporting systems will be brought into service, increasing overall efficiency.

The combined Strategic Technology Services and Information Services budget represents a significant increase over the 2012-2014 IT budget. A large portion of the change is the inclusion of the Portfolio Screening Tool, cyber-security and improvements in analysis tool functionality.

Information Services – RA Activity

None.

General Administration Proposed Budget $800,000

General Administration

Administration reflects costs incurred by the Efficiency Vermont senior management team in administering Efficiency Vermont. It involves the costs of preparing for and administering general staff meetings; coordination of program implementation across different functions; and management, monitoring, and internal communication of overall performance and spending. It does not include costs directly associated with Resource Acquisition programming.

Budget Analysis

The budget for General Administration is based on past performance and professional judgment about the cost of future activities. The 2015-2017 budget is consistent with the 2012-2014 budget.

General Administration – NRA Activity

- Developing cost allocation contracts for BED and VGS
- The Overall Performance Assessment
- DPS Financial Audit
- Confidential Information Management Systems (CIMS) implementation
- VEIC staff training
- Efficiency Vermont management meetings
- Efficiency Vermont staff meetings
- Staff and organizational communications
- NRA budget management
- NRA conferences and training

General Administration – RA Activity

- RA budget management
- Program specific planning and implementation
- Program specific conferences and training

Vermont Energy Investment Corporation

Appendix A
Potential Outcomes

Education and Training

Codes & Standards Support: Residential and C&I

1. Number of code trainings delivered to design, building, and real estate professionals
2. Number of calls handled through Energy Code Assistance Center
3. Number of organizations provided with code updates information for inclusion in newsletters / websites, or training (Home Builders and Remodelers Association of Northern Vermont, Vermont Association of REALTORS®, American Institute of Architects-Vermont Chapter, Vermont League of Cities and Towns, ICC Building Safety Association of Vermont, Vermont Natural Resources Board, etc.)
4. Number of municipalities and regional planning commissions provided with code updates / information or training sessions
5. Provide stakeholder input and technical assistance to energy code development and updates, such as due for RBES / CBES in 2017, or proposed legislation (specific activity can be reported on, or indicated as *completed*)
6. Number of educational and energy code compliance materials to Vermont commercial and residential building owners, town officials and contractors as measured through the Energy Code Assistance Center's tracking database.

Energy Literacy Project

1. Number of students and teachers participating in at least one ELP activity
2. Number of schools with at least one ELP activity
3. Number of new schools reached
4. Number of counties with at last 1 school with ELP activitiy
5. Number of in-class presentations conducted
6. Number of trainings conducted for teachers and / or curriculum coordinators
7. Number of teachers who participate in VEEP training or school-activity
8. Number of schools that form a Green Team and undertake at least one activity
9. Completed Energy Literacy Framework linking energy education to educational standards
10. Number of individuals receiving VEEP newsletter with results of the Energy Literacy Project

General Public Education

1. Ratepayer brand awareness rating (based on results from benchmark studies, research conducted by Efficiency Vermont, research collected from secondary sources: eSource, the Shelton Group, etc.)
2. Number of events sponsored / attended as exhibitor (St. Albans home show, Essex Expo home show, Brattleboro event, Waterbury Leap)
   - o Geographic equity of events
   - o Number of visitors to the booth
3. Number of subscribers to the Efficiency Vermont eNewsletter (*Watt's New*)

  - Percent open rate
  - Percent click-through rate
4. Number of readers of the Efficiency Vermont blog (Energy.Forward)
  - Number of repeat visitors

BBD Conference

1. Number of trade allies and partners attending the Conference
2. Exceptional satisfaction level for all conference attendees (example, “Over 90% rate the conference as Very Good or Better”)
3. Number of professional credit opportunities (CEUs) offered to conference attendees
4. Number of conferences in a performance period

Customer Support

1. Meet SQRP performance metrics
2. Provide trainings, as needed, on Efficiency Vermont programs for electric utilities customer support staff

Applied Research and Development

Emerging Data Services

1. Establish a process for soliciting and approving ideas. VEIC will track the number of applications received and number funded.
2. Incubate / test new data services. Conduct progress assessment at project completion. Where appropriate, move the initiative into RA or other NRA categories. VEIC will create a list of new data services in R&D, and will track projects that graduate into use by staff or customers.

Technology Demonstrations

1. Establish an annual process for soliciting and approving ideas. VEIC will track the number of applications received and number funded.
2. Conduct an assessment of progress at the end of each project, and where appropriate, move the initiative into RA or other NRA categories. VEIC will track projects that graduate into use by staff or customers.

Planning and Reporting

Annual Plan

1. Development of the Annual Plan and budgets
2. Create the Annual Plan presentation for the Board workshop
3. Conduct annual public stakeholder process for annual plan input

Demand Resources Plan

1. Create the 20-year Electric and 10-year TEPF Demand Resources Plan and gather input from the Department and interested stakeholders
2. File 20-year Electric and 10-year TEPF Demand Resources Plan with the Board. The plans will contain:
    a. Yearly EEU demand-side resource acquisition budgets and resulting benefits
    b. Quantifiable Performance Indicators to measure EEU results for 3- year performance period
    c. Plans and budgets for NRA activity
    d. EEU compensation structure

VSPC Participation

1. Active engagement in VSPC quarterly meetings
2. Active participation in VSPC Geographic Targeting, Forecasting, Coordinating, Public Participation, and other appropriate subcommittees.

ISO-NE FCM Administration

1. Participate in annual FCM auctions.
2. Facilitate timely reporting and data delivery to meet ISO-NE requirements.
3. Monitor and participate where appropriate in ISO-NE initiatives with the potential to affect FCM
4. Facilitate quarterly, accurate reporting of FCM performance to regulators.
5. Manage subcontract with Synapse Energy Economics for representation at ISO-NE meetings.

External Reporting

Submit the following reports to the Board:

1. Annual Savings Claim - April 1
2. Highlights brochure – produced each spring
3. Annual Report - each fall
4. Efficiency Vermont Monthly Reports (8 per year)
5. Efficiency Vermont Quarterly Reports with budget variance and activities narrative (3 per year)
6. Customer complaint reports - quarterly
7. Annual Budget Variance Report - February

Evaluation

Annual Savings Verification

1. Maintain accuracy of Prescriptive Portfolio above a certain percent realization rate
2. Maintain accuracy of CI Custom Portfolio above a certain percent realization rate

3. Accurately reflect savings verification results in final report
4. Fulfill annual savings verification obligations on time

Technical Advisory Group

1. Resolve issues raised in savings verification prior to start of the following year
2. Respond to TAG communications from the Department and its subcontractors within two weeks
3. Reach common agreement on avoided costs and screening tool updates, at least one month prior to effective date of any Board order related to avoided costs

Technical Resource Manual

1. Existing energy efficiency measure updates (market transformation updates, RBES, CBES, Federal Standards): X annually (no numeric goal, just general)
2. Continuous process improvement activities: Reduce TRM implementation lead time by 15%
3. TRM Reliability Project: X measures reviewed and updated annually to ensure measures assumptions are not older than 3-5 years
4. Quality assurance activities and evaluations of high-impact energy efficiency programs and measures: X annually for SMARTLIGHT quality assurance, Heat Pump Water Heater Q/A, Circulatory Pump Q/A, HPwES Q/A; no numeric goal, just general

ISO-NE FCM Metering and Monitoring and Evaluation

1. At least a certain percent realization rate for large custom C&I projects
2. At least a certain percent of large custom C&I projects have in-program metering or verification
3. Metering devices calibrated and maintained to ISO-NE standards
4. Meeting ISO certification annually for FCM auction participation
5. Safety training for on-site meter deployment is undertaken each year with both new and existing staff

Quality Management Program

1. Implement Admin QPI value stream improvements and track metrics
2. Provide staff training on continuous improvement tools / methods: Intro to Lean, value stream mapping essentials, structured problem solving -A3, deliverables roadmaps.
3. Facilitate continuous improvement activities: Facilitate and scope session prior to value stream mapping training, Kaizen team activities, process improvement activities (for example, ongoing impact evaluation process improvement effort), SQRP-related activities, coordinate project satisfaction survey analysis and tracking efforts, advise SQRP metric “owners” on best practices.

Policy & Public Affairs:

Public Affairs

1. Legislative and administration briefings and communications
2. Creation and readership of online resources such as:
    a. Blog entries
    b. White papers and reports
    c. Online tools for public affairs topics
3. Media coverage:
    a. Press events, releases, columns, etc.
    b. Efficiency Vermont topics in response to media inquiries

Regulatory Affairs (non-DRPP)

1. Actively participate in Board proceedings that affect Efficiency Vermont or refer to Efficiency Vermont data, historic or future performance, or obligations
2. Provide timely responses to regulatory initiatives
3. Provide regular communication of regulatory activities and relevant decisions
4. Research and engage in state and national regulatory issues that potentially affect Efficiency Vermont
5. Facilitate the establishment of and pursuit of Efficiency Vermont regulatory priorities
6. Review and / or participate in Efficiency Vermont forums (TAG, program improvement plans, EM&V, etc.) that reflect or affect regulatory policy

Financial and Leveraged Product Development

1. Secure a certain number of distinct non-EEC or TEPF funding opportunities
2. Secure a certain number of financial institutions that recognize energy savings in lending evaluation
3. Establish at least one utility on-bill financing mechanism

Information Technology

1. Application support
    - Strategic Technical Services team has draft standards for trouble ticket response time, and feature / work requests. These could be finalized and used as a baseline for measuring application support.
    - Mean time to repair a reported defect. Proposed: Blocker 24 hours; critical issues: 3 business days
    - Number of defects reported per release (goal: annual average of fewer than 3 per release)
2. Outcomes: Use of online rebate and other customer-facing tools
    - Number of rebate applications submitted online versus paper / PDF forms

3. Industry standards
    - Number and name of industry standards for data format or data transfer adopted or created: Significant effort, goal of 2 over the 3-year period. Note: HPXML is under way in 2014, looking at potential for BEDES and uniform methods for TRM in late 2014, will continue to look for others. These are large and infrequent, but important.
    - Participation in industry standard development (HPXML, others): Conference calls with industry groups; drafts reviewed, etc.
4. AMI data transfer
    - Number of analytical reports and tools created using AMI and other data
5. Data import
    - Number of import processes streamlined with uniform tools (efficient product data, measure import, third party data sources)

General Administration

- Number of communications to staff
- Number of staff meetings
- Annual contracts with BED and VGS