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The Rhode Island Energy Efficiency and Resource
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November 8, 2010

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VIA HAND DELIVERY & ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket 4209 – EERMC Review and Approval of the 2011 Annual Energy Efficiency Plan’s Cost-effectiveness Pursuant to 39-1-27.7 (c)(5)

Dear Ms. Massaro:

Pursuant to Rhode Island’s Least Cost Procurement law, I am transmitting 10 copies of the Energy Efficiency and Resource Management Council’s (“EERMC”) review and approval of the cost-effectiveness of National Grid’s 2011 Annual Efficiency Plan as supported by the Vermont Energy Investment Corporation’s (“VEIC”) Cost-effectiveness Report completed for the EERMC, which is enclosed. VEIC’s findings were presented to the EERMC and were approved and adopted by a unanimous vote of the EERMC.

As the PUC is aware, in 2010 the General Assembly enacted an amendment to R.I. General Laws Section 39-1-27.7 (c)(5). As amended, this subsection provides that the EERMC review and approve the triennial efficiency procurement plans, and any related annual efficiency plans for cost-effectiveness, such as the annual Energy Efficiency Program Plan for 2011 recently filed on November 1 by National Grid. Amended Section 39-1-27.7(c)(5) provides further that the PUC shall issue an order approving a mechanism to fully fund cost-effective Plans within 60 days after it is filed with the PUC.

Pursuant to its cost-effectiveness review and approval responsibilities under the 2010 amendment, the EERMC commissioned VEIC to perform a cost-effectiveness analysis of National Grid’s 2011 annual EE Program Plan filed on November 1, 2010. The enclosed report is the product of that analysis.

In brief summary, the VEIC report and the EERMC find that under the Total Resource Cost (“TRC”) test, ordered by the Commission in Docket 3931’s Standards for Efficiency Procurement (July, 2008), and consistent with national best practices, the 2011 annual EE Program Plan is cost-effective and lower cost than the acquisition of additional supply and compliant with applicable state statutes and regulations. Accordingly, the EERMC’s review and approval finds the 2011 Annual EE Program Plan to be cost-effective and appropriate for a fully reconciling funding mechanism approved by the Commission within the specified 60 day period.

The EERMC respectfully recommends that the Commission approve the cost-effective 2011 Plan as submitted by National Grid and the parties on November 1, and as provided for by Section 39-1-27.7 (c)(5), approve a fully reconciling funding mechanisms sufficient to fund the Plan's proposed budget within 60 days from the date of the Plan's filing.

Respectfully submitted,

THE RHODE ISLAND ENERGY EFFICIENCY AND
RESOURCES MANAGEMENT COUNCIL

By its attorney,

//s/ R. Daniel Prentiss
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**The Cost-Effectiveness
Of National Grid's
Annual Energy Efficiency
Procurement Plan
For 2011:**



VERMONT ENERGY
INVESTMENT CORPORATION



Integrated Energy Resources

**An Assessment and Report by
The VEIC/Optimal Consultant Team
Working on Behalf of**

**The Energy Efficiency and Resource
Management Council (EERMC)**

Consultant Team Findings

This finding was presented by the EERMC Consulting Team to the EERMC at its Oct. 14 Meeting, and was approved and adopted by vote of the EERMC.

The EERMC Consulting Team finds that both the individual programs and in combination, the portfolio of programs presented in the 2011 Annual Program Plan Filing by National Grid are cost-effective according to the Total Resource Cost Test (TRC). We also find that the Programs and portfolio proposed represent a reasonable and credible ramp-up of National Grid's implementation efforts. We conclude that these programs meet the cost-effective requirements of Rhode Island General Laws 39-1-27.7 (c)(5) and therefore a fully reconciling funding mechanisms sufficient to pay for the proposed budget should be approved by the Commission within 60 days as required by that section.

I: Introduction

During the 2010 legislative session the Rhode Island legislature passed H8082 – An Act Relating to Public Utilities and Carriers, which includes the following language for R.I.G.L. 39-1-27.7 (c)(5):

The Commission shall issue an order approving all energy efficiency measures that are cost effective and lower cost than acquisition of additional supply, with regard to the plan from the electrical and natural gas distribution company, and reviewed and approved by the energy efficiency and resources management council, and any related annual plans, and shall approve a fully reconciling funding mechanism to fund investments in all efficiency measures that are cost effective and lower cost than acquisition of additional supply, not greater than sixty (60) days after it is filed with the commission.

The EERMC asked its Consulting Team to produce this report to fulfill the EERMC's required review and approval of whether the 2011 Annual Plan is cost-effective and submit that review and approval as evidence to the Rhode Island Public Utilities Commission ("Commission" or "PUC") necessary for Commission's approval of a fully reconciling funding mechanism to fund the 2011 Plan filed by National Grid.

The original legislative definition of least cost procurement is found at RIGL 39-1-27.7 (a)(2) and is:

Least-cost procurement, which shall include procurement of energy efficiency and energy conservation measures that are prudent and reliable and when such measures are lower cost than acquisition of additional supply, including supply for periods of high demand.

The Energy Efficiency and Resources Management Council ("EERMC" or "Council") instructed its Consulting Team to conduct a formal review and present written evidence of its findings regarding the cost-effectiveness of National Grid's 2011 Least Cost Procurement Plan, filed November 1, 2010 with the Commission.

The EERMC Consulting Team conducted its review as requested by the EERMC and has presented its findings to the EERMC for review, discussion, and action.

The EERMC at its October meeting: (1) approved the Consulting Team's Cost Effectiveness Report and its conclusion – that National Grid's 2011 Annual Program Plan is cost-effective and lower cost than the acquisition of additional supply pursuant to R.I.G.L. 39-1-27.7 (c) (5) and (2) directed that the Cost-

Effectiveness Report be submitted to the Commission as required by that new Section (passed in May of 2010).

This document represents a formal statement of the EERMC Consultant Team's conclusion on behalf of the EERMC, describes the nature and process of the review it conducted, and documents the professional experience and qualifications of the Consultant Team to conduct such a Cost-Effectiveness Review of National Grid's 2011 Annual Plan.

II. Summary of EERMC Consulting Team's Qualifications

The EERMC Consulting Team is composed of Vermont Energy Investment Corporation (VEIC) as the lead contractor (Scudder Parker is the Project Manager). Optimal Energy Inc. (OEI) partners with VEIC on the Team (Mike Guerard, a Rhode Island resident, coordinates the Consultant interaction with National Grid and is the residential program lead and Phil Mosenthal provides a deep level of expertise in Commercial and Industrial program design and extensive policy and analytical experience). Energy Futures Group provides deep expertise in residential program design. In addition, Douglas Bastion of North Atlantic Energy Advisors assists on Commercial and Industrial program issues, and Ralph Prael, of Prael Consulting assists on EM&V issues.

This team brings an impressive understanding of, and experience with, energy efficiency policy, regulatory practice, program design, cost-effectiveness analysis, measure characterization, assessment of potential savings, and evaluation, measurement and verification. Many of the individual consultants included on the VEIC Team have 15-25 years of direct experience in energy efficiency and broader regulatory policy. All participants also practice in other jurisdictions outside of Rhode Island (many of those in New England) and their experience in those settings provides an important context and perspective to inform the Rhode Island EERMC in its oversight role.

A full listing of qualifications of the various team members and the resumes of the participating individual consultants is provided in Attachment A.

The EERMC Consulting Team has been involved in the Rhode Island oversight, program design and implementation process since it was hired early in 2008. It helped draft the Standards proposed by the EERMC, has provided oversight of the Opportunity Report process in both Phase I and in Phase II, and has reviewed annual Efficiency Program Plan filings by National Grid for 2009, 2010, and 2011. This deep familiarity with the Rhode Island policy, planning, implementation, and evaluation experience provides a high level

of assurance that practice in Rhode Island is consistent with regional and national best practices in Energy Efficiency Least Cost Procurement.

III. The Rhode Island Legal and Regulatory Framework

Rhode Island's 2006 Comprehensive Energy Bill established a comprehensive energy policy to explicitly and systematically maximize ratepayers' economic savings through investments in all cost-effective energy efficiency. By placing a requirement on the distribution utility to procure all cost-effective energy efficiency, Rhode Island ratepayers of all classes stand to save hundreds of millions of dollars in energy bills over the next decade.

As required in the 2006 legislation¹, the EERMC proposed to the PUC a draft set of "standards for energy efficiency and conservation procurement and system reliability" ("Standards") that the EERMC recommended for adoption by the PUC on June 1, 2008. The purpose of these Standards was to guide National Grid ("National Grid") in its 3-year Least Cost Procurement Plan and its System Reliability Procurement Plan to be filed by the Company on September 1, 2008.

The EERMC filed its draft Standards on Feb. 29, 2008. Through Docket 3931 the Commission conducted a process that included both written evidence and public hearings. The PUC ordered a slightly revised version of those standards in Open Meeting on June 12, 2008, and in a formal Report, issued, July 18, 2008.

The Standards ordered by the PUC wisely identify the Total Resource Cost (TRC) test as the methodology to use in determining whether the measures, programs and the portfolio of energy efficiency (EE) services are cost effective and less expensive than supply under the law.² In Section 1.2, A, 2, (a) and (b), the standard for determining cost-effectiveness is spelled out:

- (a) The Utility shall assess measure, program and portfolio cost-effectiveness according to the Total Resource Cost test ("TRC"). The Utility shall, after consultation with the Council, propose the specific benefits and costs to be reported and factors to be included in the Rhode Island TRC test.*
- (b) That test shall include the costs of CO2 mitigation as they are imposed and are projected to be imposed by the Regional Greenhouse Gas Initiative. They shall include any other costs associated with greenhouse gas reduction that*

¹ R.I. General Laws §39-1-27.7.

² Following existing Commission practice and since least cost procurement was added by the General Assembly for natural gas efficiency in 2010, the same TRC methodology (adjusted appropriately for gas measures and programs) apply to the evaluation of cost-effectiveness for gas programs.

are actually being imposed on energy generation and can be identified and quantified.

On September 2, 2008 National Grid filed its 2009-11 Efficiency Procurement Plan. This first 3-year Procurement Plan was based on the guidance afforded by the Standards, and which has substantial input from the EERMC and its Consulting Team as well as the Collaborative Subcommittee of the EERMC.

The Procurement Plan was also informed in part by the Phase I Opportunity Report submitted by the consulting firm KEMA, As required in R.I.G.L. 39-1-27.7 (c) (3), submitted July 15, 2008³

The PUC conducted extensive hearings, and parties participated in substantial review and revisions, and the 3-year Energy Efficiency Procurement Plan was approved by the PUC in Open Meeting on March 31, 2009, and in written Order, on April 17, 2009.

IV. Consultant Findings

The EERMC Consulting Team finds that both the individual programs and in combination, the portfolio of programs presented in the 2011 Annual Program Plan Filing by National Grid are cost-effective according to the TRC. We also find that the programs and portfolio proposed represent a reasonable and credible ramp-up of National Grid's implementation efforts. We conclude that these programs meet the cost-effective requirements of Rhode Island General Laws 39-1-27.7 (c)(5) and therefore a fully reconciling funding mechanisms sufficient to pay for the proposed budget should be approved by the Commission within 60 days as required by that section.

The EERMC Consultant Team conducted the following reviews to reach this conclusion:

1. Consistent and on-going oversight of actual National Grid energy efficiency planning and implementation activities, both through direct interaction with National Grid staff, and through participation in the Collaborative process (documented in Section V).
2. Direct review of National Grid's cost-effectiveness assessment practices and its screening process (documented in Section VI and VII)
3. Review of National Grid's Evaluation Process (documented in Section VIII).

³ A more detailed version of the Opportunity Report, based on Rhode Island-specific surveys and site visits was issued on August 30, 2010, and has helped inform National Grid's 2011 Program Filing.

Finally, the EERMC Consulting Team has the requisite skills, experience, and demonstrated expertise in the subject matter work under consideration. Those skills and that experience are documented in Appendix A.

V. Ongoing Oversight by the EERMC and its Consulting Team

The EERMC, consistent with its statutory obligations under the Rhode Island “Comprehensive Energy Conservation, Efficiency & Affordability Act of 2006,” plays an active role with National Grid to guide, facilitate and support public and independent expert participation in the review and evolution of utility efficiency procurement and programs. The Council believes this input is critical to having the programs and new mechanisms evolve into resource acquisition tools that can effectively implement the Rhode Island law to procure all cost-effective energy efficiency.

As required by Docket No. 3931 and the Energy Efficiency Procurement Standards, a consistent and effective process has been carried out to guide the annual development and submittal of National Grid’s Energy Efficiency Procurement Plan (EPPP) to the PUC. The primary forum for this process has been the Collaborative Subcommittee to the EERMC. The Collaborative functioned as the “DSM Collaborative” until 2008. Given the overlapping responsibilities of the DSM Collaborative and the EERMC in working with National Grid on energy efficiency planning, the Collaborative was made into a subcommittee of the EERMC in 2008. This enables the critical expertise and experience of the existing group to be leveraged to help meet the Council’s statutory responsibility of monitoring, evaluating, and proposing changes to existing programs and new procurement and program strategies.

The composition of the Collaborative has varied since 1991, as some organizations have withdrawn and others have joined. Members of the Collaborative currently include representatives from National Grid staff, the Division, the Office of Energy Resources (OER), TEC-RI, and Environment Northeast (ENE), along with participation from several EERMC members and representatives from the EERMC’s Consultant Team.

Although the Collaborative Subcommittee meets regularly throughout the year, beginning in July a more robust schedule of meetings, and between meeting correspondence, is initiated to begin formulation of the subsequent year’s program planning, and ultimately filing. Highlights of the process in a typical year include:

- July:
 - EERMC and Collaborative Subcommittee review of second Quarter results of current program year, with focus on program adjustments and refinements to consider for future inclusion
 - More detailed investigation of program performance through meetings between the EERMC Consultant Team and National Grid on sector-specific program implementation results covering both residential and Commercial and Industrial (“C&I”) programs
 - Planning and establishment of the proposed timeline for development and completion of EEPP at end-of-month Collaborative Subcommittee meeting
- August:
 - Reports on EEPP process from the Collaborative Subcommittee made at EERMC’s monthly meeting begin, and continue through the October session
 - Collaborative Subcommittee meetings begin the process of determining high level sector goals, and review key developments from current year and potential new directions informed technology innovation and industry developments
 - First draft of EEPP developed by National Grid for review and comment by the Collaborative Subcommittee
- September:
 - Second draft of plan from National Grid developed and reviewed by Collaborative Subcommittee; preliminary report on status made to EERMC by Collaborative Subcommittee at mid-month meeting
 - Results from Collaborative Subcommittee review and EERMC feedback on second draft used to inform Collaborative Subcommittee meeting agenda to address primary issues
- October”
 - Third draft from National Grid distributed to EERMC one week prior to the October meeting for review and provisional approval, pending accommodation of final recommendations presented by Collaborative Subcommittee and EERMC Consultant Team, and accepted by EERMC.
 - Post-EERMC meeting, Collaborative Subcommittee works with National Grid to assure all EERMC issues are factored into final version
- November 1”
 - Submittal of EEPP to the Commission for approval

Throughout this process, the objectives of the Standards are followed to ensure that program designs and the resulting implementation secures cost-effective energy efficiency resources that are lower than the cost of supply, are prudent and reliable, and deliver hundreds of millions of dollars in bill savings to Rhode Island customers.

The EERMC Consultant Team was hired in 2008 through a competitive bid. It has served as the EERMC's resource in reviewing EE policy generally, identifying best practices, reviewing EE programs, and providing written testimony as appropriate.

The EERMC Consultant Team has engaged National Grid staff directly over its three years of service to the EERMC, and is very familiar with Rhode Island Law, regulatory policy and utility practice. Its qualifications are detailed in Section VI of this Report.

As mentioned in Section II, above, the Consultant Team provided active oversight of both Phases of the Opportunity Report.

VI. Cost Effectiveness Overview

The Total Resource Cost (TRC) test is accepted as "best practice" for evaluating energy efficiency programs and is the most broadly used test for cost-effectiveness among states with energy efficiency procurement mandates and programs overseen by their Public Utility Commission and by the efficiency industry generally. As noted above, the TRC is the cost-effectiveness test required for use in Rhode Island by the PUC. In short, the TRC test indicates that an efficiency measure or program is cost-effective if the benefits to society outweigh the costs ("society" includes both customers and the utility).

Any cost-effectiveness test is an analysis comparing the costs and benefits of two scenarios. For an efficiency measure we compare the "business as usual case" of standard equipment to the "efficiency case" of higher-efficiency equipment over the life of the efficiency equipment. (The same applies to efficient practices, and can be applied to codes and standards, such as high-efficiency building codes or design practices. It may also be used to assess the cost-effectiveness of behavior modification strategies.)

The TRC test was formally adopted as the best practice for evaluating the cost-effectiveness of energy efficiency measures and programs in 1983 when it was codified in the *Standard Practice for Cost-Benefit Analysis of Conservation and Load Management Programs*, published by the California Energy Commission. The "Standard Practice" manual has been revised several times since and has served as the *de facto* basis for determining efficiency cost-effectiveness by the majority of electric and gas utility efficiency programs. The manual is regarded as well-grounded in best-practices for cost-benefit analysis.

As noted above, the Rhode Island Public Utilities Commission ordered the TRC test for use in Rhode Island in its 2008 Docket No. 3931 on Standards for Energy Efficiency Procurement. Subsequently National Grid proposed the specific costs and benefits to be

included in the Rhode Island TRC test in its Least Cost Procurement Plan (September 2008) with support and input from the EERMC, which the Commission approved and ordered into effect. We have reviewed this methodology and found it to be consistent with standard practice.

The TRC test includes the following costs:

- Program implementation costs including
 - Program planning and administration
 - Marketing costs
 - Customers incentives and related implementation costs
- Customer contribution (above what they would have paid in the “business as usual case”)
- Program evaluation costs.

The program implementation costs include the costs of program planning and administration, marketing, customer incentives, and related implementation costs. Cross-program costs (e.g., comprehensive marketing not specific to a single program) are allocated at the sector or portfolio level. The costs included in the TRC are those incurred by customers and the utility as a whole to support the efficiency programs that would not have been incurred without those programs.

The benefits of the Total Resource Cost test include the discounted, monetized value of:

- Reduced energy (MWh)
- Reduced capacity (MW), which avoids the costs of providing both peak demand, and the transmission and distribution system
- Reduced fossil fuel use (or increased use as a negative benefit)
- Reduced water and sewer use
- Non-resource benefits, generally due to decreased operation and maintenance costs.
- Demand Reduction Induced Price Effect (DRIPE), as included in the avoided costs of electricity.

The benefits for reduced electric energy (MWh and MW) and other resources are monetized based on avoided costs, which must reflect the true cost to society of delivering each MWh, MW or unit of fossil fuel.

The costs and benefits of an efficiency program are discounted to present-value using a real discount rate, in order to discount the future value of money (i.e., money today is considered more valuable than the same amount of money in the future). A program is considered to be cost-effective if the present value of benefits exceeds the present value

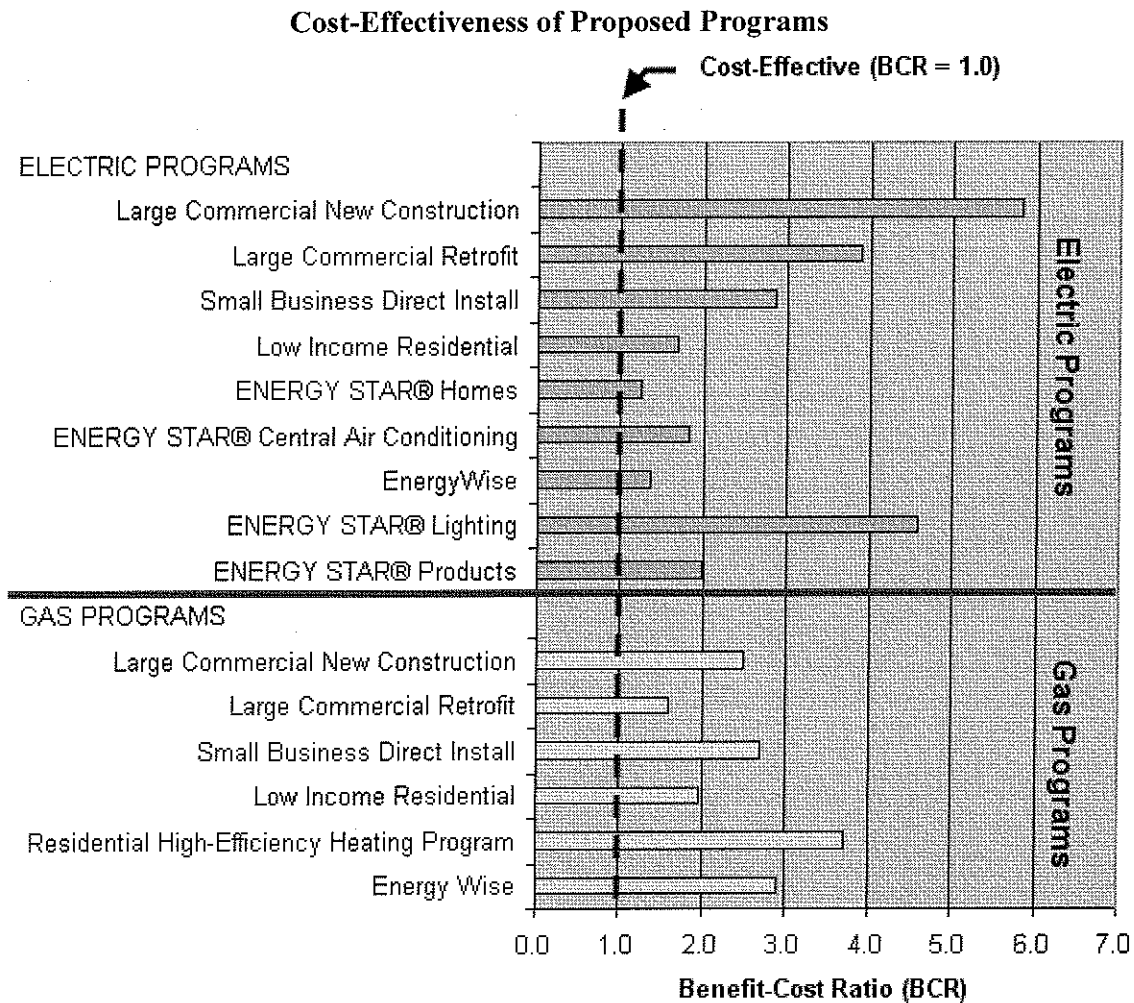
of costs, that is, when the TRC benefit-cost ratio (BCR) is greater than 1.0, than a program is cost-effective.

VII. Cost Effectiveness Review and Findings

The Standards for Efficiency Procurement requires state that all programs should be cost-effective and the portfolio must be determined to be cost-effective by having a TRC benefit-cost ratio of greater than 1.0. The EERMC Consultant Team's review has found that all of National Grid's proposed programs, and the overall portfolio of those programs, are cost effective, with a benefit-cost ratio greater than 1.0 as projected in the program plans. In this section we summarize the cost-effectiveness of programs as projected in the program plans, followed by a description of our review methodology and findings.

National Grid's program and portfolio cost-effectiveness are provided Tables E-5 (electric) and G-5 (gas) of the National Grid program plan attachments. The associated tables in the attachments provide supporting data on program budgets, avoided costs and other related data. All of the electric programs are projected to be cost effective, with BCRs ranging from 1.25 (ENERGY STAR[®] Homes) to 5.83 (Large Commercial New Construction). Likewise, the gas programs are all projected as cost-effective with BCRs ranging from 1.59 (Large Commercial Retrofit) to 3.70 (Residential High-Efficiency Heating Program). Not only do all the programs pass cost-effectiveness screening, a majority of the programs pass cost-effectiveness screening by a wide margin. In fact, National Grid's programs pass the benefit-cost test by a wide margin considering that out of 15 electric and gas programs, 13 have BCRs greater than 1.5. When non-program-specific costs are included, the sector BCRs range from 1.69 (Electric Low Income) to 3.64 (Electric Commercial & Industrial), which means, that all programs are have a BCR greater than 1.0 as required by the PUC's Standards for Energy Efficiency Procurement and 39-1-27.7 (c)(5).

The bar chart below shows the cost-effectiveness of individual programs in National Grid's program plans and illustrates that all of the programs pass the cost-effectiveness test with a benefit-cost ratio that exceeds 1.0.



Our review of the cost-effectiveness of the program plans addressed three areas:

1. The mechanics of the methodology used to calculate cost effectiveness
2. The processes used to update the model inputs from year to year
3. The general model assumptions and inputs for measure and program costs and savings.

To address those three areas, the review included the following primary activities:

- Review National Grid’s methodology for calculating the TRC test, described in detail in their Commission approved “Least Cost Procurement Plan” (September 2008).
- Review the program plans and cost-effectiveness projections
- Submit and review with National Grid specific questions on their methodology and practices
- Review National Grid’s screening model via a remote web session.

We found no surprises in our review of the mechanics of the TRC test calculations.

Overall, the application of the TRC test follows standard practice, including:

- The cost and benefit components of the TRC test
- The methodology for monetizing benefits based on avoided costs
- Adjustments of market effects (i.e., free ridership and spillover)
- Accounting for inflation in the avoided costs and measure costs
- Discounting the future value of money
- Inclusion of non-program-specific costs at the sector and portfolio levels.

Regarding National Grid’s processes for updating the model and screening inputs from year to year, we also found no reason to question the projected cost-effectiveness of the program plans. Baselines are adjusted for new building codes and federal standards as should be the case. Measure and program costs are generally updated based on past program experience or new market information as we would expect to see. Pilot programs are used appropriately to determine the cost-effectiveness and viability of new measures.⁴

The EERMC Consultant Team’s review of the general model assumptions and inputs for measure and program costs and savings was performed via meetings with National Grid. The review focused on the general mechanics of the model, with a more detailed review of several specific measures. We also looked for any trends that would indicate systemic problems with the measure assumptions, and outliers that might indicate blunders or highly-suspect inputs. Overall the results were very positive and we did not find any systematic or extreme cases that would bring into question the projected cost

⁴Pilot programs are important because while most measures can be found to be “cost-effective” or “non-cost-effective” in most standard applications; there may be highly cost-effective measures that are not cost-effective in certain applications; and some generally non-cost-effective measures that are cost-effective in certain situations. One challenge facing energy efficiency program designers in which pilot programs are crucial, is to keep refining the knowledge base of such situations, and tailoring programs and services to avoid situations in which a measure is not cost-effective; and discover the conditions and market segments in which a measure may prove to be cost-effective. The program and portfolio level analysis, combined with increasing service delivery sophistication are positive characteristics of programs that help secure all cost-effective opportunities.

effectiveness of the program plans. For future years we will continue to examine inputs and may suggest minor revisions as the Consultant Team works with National Grid, the EERMC, and the Collaborative Subcommittee to keep everything appropriately updated.

In conclusion we find, based on this review that National Grid's planned programs for 2011 are cost-effective based on the TRC test, as described in the program plans.

Cost of efficiency – cheaper than supply

There are different ways to compare the cost of efficiency to the cost of electric supply. The EERMC Consultant Team notes that in addition to the TRC being the test ordered by the PUC, it is also the best measure of whether efficiency is cheaper than the cost of supply. The TRC test accounts for both the costs and benefits of efficiency programs and includes the costs and benefits for both the utility and its customers. The benefits are calculated using the avoided costs of electric energy and demand, and fossil fuels, thus it inherently compares the costs of efficiency to the total cost of energy supply. When an efficiency measure or program passes the TRC cost-effectiveness test, it is lower cost than supply as defined by the TRC in Rhode Island pursuant to the Standards and TRC definition.

Another way that National Grid expresses the results of the TRC analysis is as a Total Net Benefits figure that translates the benefit/cost ratio into a figure that represents the total benefits to society over the lifetime of the measures. We agree that National Grid's assessment of net benefits is an accurate and appropriate measurement of just "how much" benefit the programs provide. Specifically, the filing represents that the 2011 Plan will create annual savings of more than 102,000 MWh and 173,000 MMBtu and lifetime savings of more than 1,189,000 MWh and 2,844,000 MMBtu. The Plan will generate economic benefits of more than \$214,337,000 over the life of the measures (with \$178,160,000 in benefits coming from the electric EE programs, and \$36,177,000 in benefits from the natural gas programs).

Separately in its filing National Grid's has compared the average cost of electric energy efficiency programs (5.2 ¢/lifetime kWh) to the current cost of residential supply, of around 9 ¢/kWh (the average cost of electricity to C&I customers is expected to be lower, but nowhere near as low as 5.2 ¢/kWh). Likewise, the cost of the gas efficiency programs (\$5.28/lifetime dekatherm) has been compared to the supply cost for heating customers, \$9/dekatherm. Based on our knowledge of avoided costs and program costs we find these results to be accurate.

According to the TRC test, the total resource cost per lifetime kWh is lower than the current cost of supply. The same can be said for the gas programs. In addition, even though cost per lifetime kWh is not the operative standard in Rhode Island where the TRC has been established for that purpose, the portfolio also “passes” a cost per lifetime unit of energy test as well. It should be noted that if the full benefits of the TRC test were included, then the cost-effectiveness by this metric would be even greater.

Net-to-Gross (NTG) Values

In our review of National Grid's screening model we noted that most measures have net-to-gross (NTG) values, or the free ridership and spillover values used to adjust measure savings for market effects. As is consistent with industry practice for many measures evaluation will be done in the future to provide these values, in which case the NTG ratio is assumed to be 100% (i.e., no adjustment is made to gross savings). This is particularly the case for the natural gas program measures. The Consultant team will work with National Grid, the EERMC, and the Collaborative Subcommittee over the course of 2011 to ensure all relevant information from similar programs elsewhere is used to provide the most accurate values possible. The Consulting Team on behalf of the EERMC will be prioritizing this effort to continue to provide aggressive independent oversight in this area and ensure savings attribution remain current overtime, including an ongoing review of the specific NTG values, particularly for measures projected to get relatively high savings. This process will appropriately be an ongoing interaction between the EERMC and its Consultant Team and the Company. We are confident that all of National Grid's programs will pass cost-effectiveness (and be cheaper than supply) even if any such adjustments to current National Grid NTG assumptions were found to be warranted.

VIII. Review of Evaluation, Measurement and Verification (EM&V) Process

Evaluation, Measurement and Verification (EM&V) refers to the systematic collection and analysis of information to document the impacts of energy efficiency programs and improve the effectiveness of these programs. Impact evaluation, a specific type of EM&V activity, refers specifically to efforts to document program impacts.

From the perspective of this review of the cost-effectiveness of National Grid's programs and 2011 plan, the relevance of National Grid's EM&V process is that it is that process that is responsible for confirming and/or refining over time the values of many of the parameter assumptions that go into the Company's cost-effectiveness analyses, particularly those pertaining to program benefits.

EM&V activities in Rhode Island have generally been managed by the evaluation department of National Grid, with input from the Rhode Island Collaborative and (more recently) the EERMC, following high-level regulatory direction set by the Public Utilities Commission (“PUC”), Division of Public Utilities and Carriers (“Division”) and the Office of Energy Resources. Recently NEEP (Northeast Energy Efficiency Partnerships) has also begun to play an important and increased role in establishing regionally harmonized EM&V standards.

National Grid owns utilities in several states, including Massachusetts, New Hampshire and New York along with Rhode Island. National Grid’s evaluation department has EM&V-related responsibilities in all of these states. National Grid’s evaluation department is highly experienced, and has a strong national reputation in the evaluation industry.

In New England, National Grid’s EM&V planning, implementation and reporting activities have historically been tightly integrated between Massachusetts, New Hampshire and Rhode Island. Most EM&V studies that bear on Rhode Island’s energy efficiency programs are planned, budgeted, implemented, reported, and filed in all three (or at least two) of these states.

In Rhode Island, the Consultant Team’s work with National Grid’s evaluation department to date has been focused primarily on providing input into evaluation priorities, approaches, and spending levels. We have in-depth familiarity with these methods through our work with the Company in Massachusetts, on a separate project for the Massachusetts Energy Efficiency Advisory Council. On the basis of this familiarity, we believe that the Company’s impact evaluation methods in New England have generally been consistent with, if not superior to, prevailing industry standards. We therefore conclude that the strength of National Grid’s EM&V process serves to buttress the finding that the Company’s programs and plan are cost-effective.

We have worked with and will continue to work with National Grid on behalf of the Council on approaches to producing more Rhode Island-specific results within current EM&V budget limitations. We have also recommended that the Company’s and the EERMC’s EM&V budget in Rhode Island, be increased to support more Rhode Island-specific work.

IX. Conclusion

For the reasons stated herein, the EERMC and the EERMC's Consulting Team finds that National Grid's 2011 Annual Program Plan is cost-effective and lower cost than the acquisition of additional supply pursuant to R.I.G.L. 39-1-27.7 (c)(5).