

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

IN RE: RI ENERGY EFFICIENCY AND RESOURCE :
MANAGEMENT COUNCIL'S PROPOSED :
ELECTRIC AND NATURAL GAS ENERGY :
EFFICIENCY SAVINGS TARGETS (2015-2017) : DOCKET NO. 4443
:
IN RE: RI ENERGY EFFICIENCY AND RESOURCE :
MANAGEMENT COUNCIL'S 2014 LEAST :
COST PROCUREMENT STANDARDS :

REPORT AND ORDER

1. Background

On September 1, 2013 the Rhode Island Energy Efficiency and Resource Management Council (EERMC or Council) filed with the Public Utilities Commission (PUC or Commission) its 2015-2017 electric and natural gas efficiency targets pursuant to R.I. General Laws §39-1-27.7.1(e)(4) and R.I.G.L. § 39-1.27.7.1(f) which provide in pertinent part,

“The commission shall review and approve with any necessary amendments performance-based energy savings targets developed and submitted by the Rhode Island energy efficiency and resources management council.” R.I.G.L. § 39-1-27.7.1(e)(4)

“The Rhode Island energy efficiency and resources management council shall propose performance-based energy savings targets to the commission no later than September 1, 2010. The targets shall include, but not be limited to, specific energy kilowatt hour savings overall and peak demand savings for both summer and winter peak periods expressed in total megawatts as well as appropriate targets recommended in the opportunities report file with the commission pursuant to subdivision 39-2-27.7(c)(3). The council shall revise as necessary these targets on an annual basis prior to the reconciliation process established pursuant to subsection (c) of this section and submit its revisions to the commission for approval.” R.I.G.L. § 39-1.27.7.1(f) ¹

¹ R.I. General Laws §39-1-27.7.1(f) incorrectly cites §39-2-27.7(c)(3) as the statutory mandate for the opportunities report. The correct citation is R.I.G.L. § 39-1-27.7(c)(3) which requires the EERMC to submit to National Grid, the Commission and the Office of Energy Resources and the Joint Committee on Energy a reliability and efficiency procurement opportunity report by July 15, 2008.

The energy efficiency savings targets, expressed in terms of kilowatt-hours (kWhs) (electricity) and MMBTUs² (gas) as well as dollar savings, are an estimate of the savings potential to be achieved from energy efficiency programs and as such, form an integral part of the state's policy to promote energy efficiency, system reliability, and least cost procurement. This is the second set of proposed energy efficiency savings targets filed by the Council. The Council filed the first set of energy efficiency savings targets on September 1, 2010 in Docket No. 4202. The first set of energy efficiency savings targets approved in Docket No. 4202 covered years 2012, 2013, and 2014. The targets proposed in this docket form the basis of National Grid's triennial energy efficiency procurement plan which is required to be filed on September 1, 2014 for the period 2015 through 2017. They also form the basis of National Grid's annual energy efficiency program plans for years 2015, 2016, and 2017. Similar to the targets filed in 2010, this filing is comprised of both electric and natural gas savings targets which are intended to guide National Grid in the development of its triennial plan and annual plans in years 2015 through 2017.³ The targets are supported by National Grid and the Division of Public Utilities and Carriers (Division).

II. 2015-2017 Electric and Natural Gas Efficiency Savings Targets

In developing the electric targets, the Council relied on the KEMA Opportunity Report (KEMA Report) that formed the basis of the savings targets filed in 2010. The KEMA Report, prepared by the Council's consultants, measures the potential for cost-effective energy efficiency measures in the state of Rhode Island and the savings derived from those measures.⁴ The KEMA Report, which is based on extensive research, including 450 surveys of residential,

² 1 million British thermal units

³ Annual plans are filed by November 1.

⁴ The Opportunity for Energy Efficiency that is Cheaper than Supply in Rhode Island- Phase II Report. Vermont Energy Investment Corporation (08/30/10).

commercial, and industrial electric customers in the state of Rhode Island, estimates energy efficiency savings for the ten year period from 2011 – 2020.⁵ The Council’s consultants reviewed this report and made various adjustments that both increased and decreased the energy efficiency potential. The net result of these adjustments was a slight increase in the level of energy efficiency potential originally estimated in the Report.⁶ In developing the natural gas targets, the Council relied on regional natural gas efficiency potential studies.⁷ The Council proposed the following electric and natural gas targets, which are expressed as a percentage of 2012 electric and natural gas sales:⁸

<u>Year</u>	<u>Electric</u>	<u>Gas</u>
2015	2.50%	1.00%
2016	2.55%	1.05%
2017	2.60%	1.10%

The targets are also expressed in units of power as follows:⁹

<u>Year</u>	<u>Electric</u>	<u>Gas</u>
2015	193,603 MWh	376,915 MMBtu
2016	197,475 MWh	395,760 MMBtu
2017	201,347 MWh	414,606 MMBtu

The Council set the following peak electric targets:¹⁰

<u>Year</u>	<u>Summer Demand</u>	<u>Winter Demand</u>
2015	27,268 kW	27,658 kW
2016	27,813 kW	28,211 kW
2017	28,359 kW	28,764 kW

⁵ Proposed 2015-2017 Energy Efficiency Savings Targets at 5-6 (09/01/13).

⁶ *Id.* at 6.

⁷ *Id.* at 7.

⁸ *Id.* at 5.

⁹ *Id.*

¹⁰ *Id.*

III. Comments

In a letter filed in support of the targets, National Grid agreed that the targets were based on Rhode Island's energy efficiency potential for the period 2015 through 2017 and that the targets were reasonable and attainable.¹¹ The Company indicated that a modest increase in the its 2015 energy efficiency budget would be necessary in order to achieve the targets.¹² The Company also noted that it would make any adjustments to the targets which may become necessary during the development of the upcoming annual energy efficiency plans.

The Division filed a letter in support of the Council's proposed targets, stating that the targets would result in significant net cost reductions for Rhode Island electricity and gas customers. The Division expressed concern, however, that the costs of energy efficiency plans should be kept at a level that is reasonable and manageable.¹³ The Division noted that energy efficiency costs should be considered in the context of total costs borne by ratepayers and urged the Council and National Grid to focus on keeping efficiency program costs down.¹⁴ The Division encouraged the Company to administer programs as efficiently as possible, maintain reasonable marketing budgets and customer financial incentives, and maximize outside funding sources.¹⁵

IV. Technical Session – Energy Efficiency Savings Targets

Following public notice, the PUC held a technical session on February 25, 2014.¹⁶ Representatives of various state agencies were present and/or participated in the technical session, including Dr. Marion Gold, Commissioner of the Rhode Island Office of Energy

¹¹ Letter of Jennifer Brooks Hutchinson, Esq.(11/13/13).

¹² *Id.*

¹³ Letter of Jon G. Hagopian, Esq. (12/04/13) at 1.

¹⁴ *Id.* at 2.

¹⁵ *Id.*

¹⁶ The following attorneys entered appearances: Daniel Prentiss, Esquire, on behalf of the Council; Jennifer Brooks Hutchinson, on behalf of National Grid; Jon Hagopian, on behalf of the Division of Public Utilities and Carriers; Karen Lyons, representing the Rhode Island Attorney General; and Amy D'Alessandro, representing the PUC.

Resources. Commissioner Gold is Governor Chafee's representative on Rhode Island's energy policy and the Executive Director of the EERMC..

The Council presented the testimony of Scudder Parker to explain the proposed energy efficiency savings targets, including the purpose of the targets and how they were developed.¹⁷ Mr. Parker presented a slide presentation on the proposed savings targets and described the proposed energy savings targets as being on a slightly tilted plateau, meaning they were just beginning to level off after five years of steadily increasing.¹⁸ In developing the targets, the consultant team had reviewed the 2010 KEMA Study and slightly adjusted some of the energy efficiency potential assumptions, as it deemed appropriate for use in setting the targets.¹⁹ After reviewing the 2010 KEMA Study, and taking into consideration all of the adjustments that were made to the Study, the consultant team determined that Rhode Island's energy efficiency potential, as reported in the 2010 Study, had in general remained unchanged, and if anything, had increased.²⁰ For the natural gas efficiency potential, the consultant team reviewed regional potential studies and found the efficiency potential to be within the range originally projected four years ago.²¹ Mr. Parker testified that the consultant team worked in collaboration with the Council and the R.I. Office of Energy Resources in developing the targets which are intended to guide the development of National Grid's three-year energy efficiency plan.²² Mr. Parker argued that even in a depressed economy such as Rhode Island, energy efficiency is beneficial to customers because buying energy efficiency is still cheaper than standard offer service which

¹⁷ Scudder Parker is a professional consultant with Vermont Energy Investment Corporation (VEIC).

¹⁸ Transcript at 14. Mr. Parker's slide presentation was based in part on the Ceres Report, *Practicing Risk-Aware Electricity Regulation: What Every State Regulator Needs to Know* (04/19/12). Ceres is a non-profit organization that does research and analytical work related to climate change.

¹⁹ *Id.* at 67, 72.

²⁰ *Id.* at 72.

²¹ *Id.* at 101.

²² Transcript at 18.

costs on average approximately \$0.08 per kilowatt-hour.²³ He also argued that energy efficiency has the effect of decreasing load forecasts, which can reduce ratepayer impact. This is due to the fact that energy efficiency has reduces load which in turn means that a less amount of power needs to be purchased in the forward capacity market. This effect could mitigate some of the cost factors influencing the market, such as transmission investments.²⁴ According to Mr. Parker, the current energy efficiency forecast could have the effect of reducing projected transmission investments by approximately \$260 million.²⁵ If such a reduction in transmission costs were to occur, it would have the effect of lowering distribution rates.²⁶

Commissioner DeSimone expressed the view that the energy efficiency program charge should appear on the front of the bill, instead of the back, to increase customer awareness of the charge.²⁷

Although the Division formally supported the Council's energy efficiency savings targets, Steven Scialabba, Chief Accountant for the Division, raised the point that a few large business customers receive a disproportionate share of the savings from energy efficiency programs which are paid for by the entire customer base.²⁸ Commissioner DeSimone reiterated this point saying, "these programs are beneficial to the Citizens Banks of the world, but the average residential ratepayer is really not seeing the benefit."²⁹

Division witness, Timothy Woolf, discussed the rate impacts and bill impacts of energy efficiency programs.³⁰ More specifically, Mr. Woolf noted the importance of analyzing rate

²³ *Id.* at 33.

²⁴ *Id.* at 37.

²⁵ *Id.* at 36.

²⁶ *Id.* at 33-37.

²⁷ *Id.* at 39-40, 44.

²⁸ *Id.* at 45. Stephen Scialabba is Chief Accountant for the R.I. Division of Public Utilities and Carriers.

²⁹ *Id.* at 56.

³⁰ In general, rate impacts represent the utility's cost of providing energy efficiency programs and are typically expressed in terms of a per kilowatt-hour charge on a distribution customer's bill. In Rhode Island, the charge is

impacts, bill impacts, and participation rates for energy efficiency programs, as opposed to analyzing each subject individually. By way of example, Mr. Woolf pointed out that while states with more aggressive energy efficiency programs will have higher rate impacts, these states typically have higher participation rates and thus, more bill savings.³¹ Mr. Woolf distinguished between the rate impacts that garner most of the attention, namely the monthly system benefit charge, versus long-term rate impacts which few people discuss or are aware of.³² According to Mr. Woolf, long-term rate impacts of energy efficiency refer to the downward pressure on rates, over an extended period of time, from lower transmission costs, avoided distribution costs and price suppression effects resulting from energy efficiency programs.³³ Mr. Woolf pointed out that the system benefit charge appears on the customer's bill; however, the long-term rate impacts of the energy efficiency programs that are funded by the system benefit charge do not appear on the bill.³⁴ Mr. Woolf estimated the rate impacts of energy efficiency programs over the next ten to eighteen years, taking into consideration decoupling adjustments to compensate for decreased sales from energy efficiency, and also taking into consideration the demand reduction induced price effects discussed above (lower transmission costs, decreased distribution costs, etc.). Mr. Woolf found that the long-term rate impacts from energy efficiency are much smaller when these other long-term impacts are factored into the analysis.³⁵ Specifically, Mr. Woolf found that the short term impact of energy efficiency programs implemented in the first

referred to as a system benefit charge (SBC) or energy efficiency program (EEP) charge. Bill impacts refer to the effect of the rate impact on a typical customer's bill, or simply, how much money a typical customer pays for the energy efficiency programs on a monthly basis.

Timothy Woolf is Vice-President of Synapse Energy, a consulting firm specializing in the regulatory, economic, consumer, environmental and public policy implications of the electric and gas industries.

³¹ *Id.* at 117-118.

³² *Id.* at 118-119.

³³ *Id.* The long-term downward pressure on rates caused by the indirect effects of energy efficiency is often referred to as the D.R.I.P.E. effect, meaning Demand Reduction Induced Price Effect. *Id.* at 137.

³⁴ *Id.* at 119.

³⁵ *Id.* at 121. Mr. Woolf's analysis refers to the long-term rate impact of electric energy efficiency programs (not gas efficiency programs). *Id.* at 122-123.

three years was a 6.2% rate increase, whereas the long-term impact of energy efficiency, over an 11-year period, was an average rate increase of 1.5%.³⁶ The average monthly bill impact for the residential class, including both participants and non-participants, over the same time period is a 2% reduction.³⁷ Commissioner Roberti asked whether an appropriate limit should be placed on the system benefit charge to which Mr. Woolf replied, “it’s a little dangerous to draw a line in the sand the way you define it because it’s all about balancing. It’s about balancing how much the rates go up versus how much bills go down, who participates, who doesn’t.”³⁸ Mr. Woolf, however, did acknowledge a customer equity issue in the manner in which the Company’s reports participation rates. For instance, customers participating in Energy Wise home audits will see more savings than customers who do not participate in energy efficiency programs, even though both pay the same system benefit charge.³⁹ Mr. Woolf contended that in order to evaluate the rate and bill impacts accurately, the Company needs to provide better, more detailed information about customer participation.⁴⁰ In particular, the Company should report not only the number of customers participating in a given year but the participation rates from year to year, and specifically, whether the same or different customers are being served year after year.⁴¹ To that end, Mr. Woolf suggested that the Company should establish clearly defined targets of participation rates, and the Company should illustrate and track these targets in participation tables in all future energy efficiency plans.⁴² He further suggested that as more information about participation is gleaned from the Company, and if the information supports such a posture,

³⁶ The rate impact is an average rate impact for both participants and non-participants within the residential class. *Id.* at 139-140, 161; See also Memorandum of Tim Woolf and Jenn Kallay at 6 (02/05/14).

³⁷ *Id.* at 161.

³⁸ *Id.* at 127.

³⁹ *Id.* at 169.

⁴⁰ *Id.* at 172.

⁴¹ *Id.* at 170.

⁴² *Id.* at 178.

that the Commission might consider requiring the Company to report better participation levels as a condition of earning the shareholder incentive.⁴³ At a minimum, Mr. Woolf felt that if participation could even be tracked more accurately for a few specific programs, that would at least be a good first step in improving the methodology for reporting and tracking participation.⁴⁴ The ultimate goal, according to Mr. Woolf, would be for all states to use the same, agreed upon methodology for tracking participation rates, rate impacts and bill impacts.⁴⁵

Sean Murphy, of National Grid, testified in support of the targets.⁴⁶ Mr. Murphy said that National Grid had worked very closely with the consultant team during the development of the targets and believed the targets would be a useful planning tool for the three-year energy efficiency plan.⁴⁷ In response to questioning, Mr. Murphy said that the Company had not estimated the impact of the proposed targets on the system benefit charge, since the system benefit charge had not yet been developed. However, Mr. Murphy said that the estimated system benefit charge for years 2015 through 2017 would be included as part of the three-year energy efficiency plan to be filed on September 1, 2014.⁴⁸ Responding to Mr. Woolf's request for improvement in the Company's monitoring and reporting of participation rates, Mr. Murphy testified that increasing participation in hard-to-reach markets is already an implicit part of the Company's energy efficiency program design; however, he represented that the Company would work with the collaborative stakeholders on how to address this issue.⁴⁹ The Company reiterated that the energy efficiency savings targets proposed by the Council are simply targets and are not

⁴³ *Id.* at 179.

⁴⁴ *Id.* at 181.

⁴⁵ *Id.* at 184-185.

⁴⁶ Sean Murphy is an Analyst in RI Strategic Policy and Evaluation.

⁴⁷ *Id.* at 106.

⁴⁸ *Id.* at 107.

⁴⁹ *Id.* at 179-180.

intended to be tied to a specific budget or budgets.⁵⁰ The Company will propose illustrative budgets in the three-year energy efficiency plan filed September 1 and a final budget supporting the annual energy efficiency plan on November 1.⁵¹ Finally, the Company testified that if the Commission were to approve the savings targets, such an approval would not translate into an automatic approval of the upcoming triennial and annual energy efficiency plans and budgets.⁵²

V. Technical Session- Total Resource Cost Test

The Commission held a technical session on May 8, 2014 regarding the Total Resource Cost (TRC) test. The Commission asked National Grid to discuss the appropriateness of the TRC test for determining the cost effectiveness of energy efficiency measures and to demonstrate how the TRC test is applied to energy efficiency programs within the *EnergyWise*, income eligible residential, and large commercial retrofit programs. The Commission also asked the Company to demonstrate how the TRC test is applied to Home Energy Reports and combined heat and power projects.

Jeremy Newberger of National Grid began his discussion of the TRC test in the context of other cost-effectiveness tests, describing the TRC test as being broader than the utility test but less inclusive than the societal test.⁵³ The utility test considers the benefits and costs that accrue to the utility, whereas the societal test considers not only the benefits and costs to both the utility and the participants, but also to society as a whole.⁵⁴ The societal test includes environmental and economic impact analyses. The TRC test, at the middle of the cost-effectiveness spectrum, considers the costs and benefits to the utility and program participants.⁵⁵ Rhode Island adopted

⁵⁰ *Id.* at 108.

⁵¹ *Id.* at 108-109.

⁵² *Id.* at 109.

⁵³ Transcript 05/08 at 9.

⁵⁴ *Id.*

⁵⁵ *Id.*

the TRC test in 2009, the year that National Grid filed its first triennial system reliability and energy efficiency procurement plan pursuant to the Least Cost Procurement Act. Prior to 2009, National Grid used a utility test to review the cost-effectiveness of its energy efficiency programs. In 2009, the prevailing view was that the TRC test was more consumer focused, particularly compared to the previously adopted utility test, which seemed more consistent with the policy and goals of the Least Cost Procurement Act.⁵⁶

The TRC test calculates the present value of the benefits of an energy efficiency measure, divided by the costs of the measure, over the lifetime of the measure.⁵⁷ The benefits of the measure can be either energy or non-energy benefits, also known as resource or non-resource benefits.⁵⁸ Energy benefits are the avoided cost of the energy that is displaced by the energy efficiency measure.⁵⁹ Non-energy benefits, or non-resource benefits, can be reduced costs associated with customer arrearages, service terminations and reconnections, as well as less tangible benefits, such as lifestyle enhancements from improved lighting and/or health benefits from lower carbon emissions.⁶⁰ The present value is then divided by the incremental cost of delivering the measure, including both program administrator and customer costs.⁶¹ The program administrator costs include the amount of rebates paid to customers, and customer costs are any other costs of the measure which are borne by the customer.⁶² The participant costs are the cost of the measure minus what the customer pays in incentives.⁶³ Mr. Newberger explained

⁵⁶ *Id.* at 10-11.

⁵⁷ *Id.* at 13.

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.* at 59-60.

⁶¹ *Id.* at 13-14.

⁶² *Id.* at 14.

⁶³ If a measure costs \$100, and the Company gives the customer a rebate of \$40, then the participant cost of the measure is \$60. *Id.* at 62.

that the Company classifies measure costs as either the incremental or total cost of the measure.⁶⁴ The incremental cost is used when the customer initiates a project or purchases a product, and it is the difference between what the customer would have spent on the project/product versus the cost of the more efficient alternative.⁶⁵ The Company uses the total cost of a project when the customer is asked to install a measure, despite the fact that the existing measure is functioning properly.⁶⁶ The Company uses total costs for retrofit program measures.⁶⁷ On a broader level, in addition to evaluating the cost-effectiveness of its energy efficiency measures, the Company also reviews the cost-effectiveness of its energy efficiency programs. These are the different categories or groups of energy efficiency measures offered by National Grid, i.e. residential programs, income-eligible programs, and commercial/industrial programs. When the Company evaluates the cost effectiveness of the various energy efficiency programs, it takes into consideration additional costs incurred by the Company, such as marketing, administration, and evaluation costs associated with the program.⁶⁸ The Company also undertakes a cost-effectiveness review at the sector and portfolio level which includes pilot program costs and the Company's shareholder incentive.⁶⁹ The Commission asked the Company why it includes the shareholder incentive as a cost at the sector and portfolio levels but not at the measure level. The Company replied that the shareholder incentive cannot be associated with a particular measure or project, and any attempt to do so would be arbitrary.⁷⁰ EERMC consultant, Scudder Parker, added that the incentive is cumulative in nature, since it is earned once the Company has reached a certain level, and as such, it would be inappropriate to include the incentive as a cost at the

⁶⁴ *Id.* at 62-64.

⁶⁵ *Id.* at 63-64.

⁶⁶ *Id.* at 63.

⁶⁷ *Id.* at 63, 73.

⁶⁸ *Id.*

⁶⁹ *Id.* at 14, 75.

⁷⁰ *Id.* at 75.

measure level.⁷¹ The Energy Efficiency Procurement Standards require all energy efficiency *programs* to be cost-effective, meaning they have a cost-benefit ratio greater than 1.⁷² Mr. Newberger pointed out that since the Standards require cost-effectiveness at the program level, some of the Company's energy efficiency measures may have a cost-benefit ratio of less than 1; however, all of the measures, in aggregate, combine to produce a portfolio of programs which are cost-effective.⁷³

Mr. Newberger distinguished the benefits of energy efficiency, expressed in dollars, from energy efficiency savings, expressed in kilowatt-hours.⁷⁴ To determine the benefits of an energy efficiency measure, the Company starts with determining the gross savings of a measure.⁷⁵ Gross savings are the energy savings expected from a particular measure determined either through engineering analyses, manufacturing specifications, or other site-specific calculations, all of which are documented in the TRM.⁷⁶ Gross savings are then adjusted by impact factors that affect the customer's energy use, such as free ridership or spillover, to arrive at net savings.⁷⁷ Finally, net savings are multiplied by value components or the avoided cost factors and non-energy impacts per unit to arrive at the benefits.⁷⁸

⁷¹ *Id.* at 76.

⁷² *Id.* at 76-77; Energy Efficiency Procurement Standards at §1.3 A iii.

⁷³ *Id.* at 77-78.

⁷⁴ *Id.* at 33.

⁷⁵ *Id.* at 79-80.

⁷⁶ *Id.* at 80.

⁷⁷ Spillover refers to a customer's energy efficiency usage or participation which exceeds that which he is incented to do, i.e. installing more energy efficiency products than the number of rebates the Company offers for that product. Free ridership refers to a customer's participation in energy efficiency programs, services or products regardless of the incentive offered by the Company for the program, services or products. *Id.* at 80-81.

⁷⁸ *Id.* at 81, 102.

For Home Energy Reports, the Company calculates savings based on a comparison of a control group and a treatment group during the year in which the energy report was issued.⁷⁹ For combined heat and power (CHP) projects, the Company includes economic benefits and greenhouse gas reduction benefits in the TRC test.⁸⁰ The TRC test is flexible enough to consider these benefits which are required by statute.⁸¹ The most recent CHP project evaluated for cost-effectiveness using the TRC test was a 12.5 MW CHP system located at Toray Plastics, Inc. in North Kingstown, Rhode Island.⁸² In evaluating the cost-effectiveness of the Toray CHP project, the Company noted that the value of carbon dioxide mitigation was embedded in the avoided costs; therefore, no additional value for carbon dioxide mitigation was figured into the test.⁸³ In its cost-effectiveness review of the Toray CHP project, the Company considered economic benefits based on a regional, macroeconomic model that assumed an increase in gross state product produced for every dollar invested in the project.⁸⁴ The Company did not count jobs created or retained as a result of the project; however, it assumed that the project would impact job retention since the Company felt the CHP facility addition would enable Toray Plastics to remain competitive and remain a viable business in Rhode Island.⁸⁵ The Company said that it would approach future CHP projects in a similar fashion by defining job creation and retention as economic benefits.⁸⁶

There was discussion over the Company's protocol for launching pilot programs. Since the Energy Efficiency Procurement Standards do not require pilot programs to be cost-effective,

⁷⁹ *Id.* at 126-127.

⁸⁰ *Id.* at 131.

⁸¹ *Id.* at 132.

⁸² Docket No. 4397.

⁸³ *Id.* at 136.

⁸⁴ The macroeconomic model originated from the 2009 study, *Energy Efficiency: Engine of Economic Growth*, authored by Environment Northeast and Economic Development Research Group, Inc. *Id.* at 138, 141, 142.

⁸⁵ *Id.* at 134, 142. In February of 2014, Toray Plastics announced its intention to open a new carbon fiber production facility in South Carolina.

⁸⁶ *Id.* at 144.

the Company was asked to describe its process for deciding whether to undertake or invest in a pilot program.⁸⁷ The Company explained that it determines whether a project is feasible by asking a number of questions, such as whether there are customers and capable vendors interested in doing the project, whether the project is capable of being launched, whether the Company has the right protocols for measuring any savings from the project, and whether there is a sufficient budget to launch the project.⁸⁸ In general, the Company tries not to spend too much money on pilots because it would lower the cost-effectiveness of the entire portfolio.⁸⁹

During the course of Mr. Newberger's testimony, he revealed that National Grid does not include cost estimates in its Technical Reference Manual (TRM).⁹⁰ The TRM is a document published annually by National Grid intended to be a transparent description of the savings estimates associated with National Grid's energy efficiency measures, including the assumptions, methodologies, and algorithms used to calculate those savings. When asked by the Commission why the Technical Reference Manual does not include a description of costs which are an essential factor in determining the cost-effectiveness of measures, Mr. Newberger replied that in developing the TRM, the Company wanted it at first to document savings because that was a particular area of interest.⁹¹ He also added that the savings attributable to energy efficiency measures are easier to identify and document than costs.⁹² He conceded, however, that the TRM should include costs to help explain the cost-effectiveness of the Company's energy efficiency measures, and he said that, in the future, the Company will in fact include documentation of

⁸⁷ Id. at 147-151; Energy Efficiency Procurement Standards, Section 1.3 A(iii)(a).

⁸⁸ Id. at 149.

⁸⁹ Id. at 151.

⁹⁰ Id. at 15.

⁹¹ Id. at 16.

⁹² Id. at 16.

these costs in the TRM.⁹³ Mr. Tim Woolf agreed that the TRM should be updated to include the costs of energy efficiency and how those costs are developed.⁹⁴

Chairperson Curran raised a concern that ratepayers should be able to associate a tangible benefit with the energy efficiency charge on their bill. In response to the Chairperson's concern, Mr. Newberger assured the Commission that ratepayers who implement energy efficiency projects do in fact experience bill savings from reduced energy consumption.⁹⁵ Tim Woolf added that ratepayers experience benefits from the Company's energy efficiency programs regardless of whether they participate in an energy efficiency project or not.⁹⁶ According to Mr. Woolf, while the benefits from energy efficiency are more immediate for participants in energy efficiency programs, in the form of reduced energy consumption and lower bills, non-participants also experience long-term benefits of improved system reliability and demand-induced price suppression effect.⁹⁷ Mr. Woolf questioned the appropriateness of including the energy efficiency charge on customers' bills because the mere existence of the charge provokes these very questions. According to Mr. Woolf's testimony, the energy efficiency charge is a cost of doing business, and therefore, it is the wrong question to ask what tangible benefits are associated with the charge.⁹⁸ Mr. Woolf further expressed a desire to see energy efficiency discussed in the context of a cost, and associated resource, relative to the entire utility system, as opposed to a customer charge.⁹⁹ Witnesses for EERMC and OER agreed with Mr. Woolf.¹⁰⁰

⁹³ Id. Mr. Newberger advised the Commission that it may take time to update the TRM to include costs since the Company is currently in the process of making structural changes to the TRM. He said the 2015 TRM may or may not include cost documentation. Id. at 16,22.

⁹⁴ Id. at 49.

⁹⁵ Id. at 36.

⁹⁶ Id. at 38.

⁹⁷ *Supra* at Page 8, Footnote 33.

⁹⁸ Id. at 39.

⁹⁹ Id. at 38-39.

¹⁰⁰ Id. at 40-46. Drawing an analogy to the energy efficiency charge, Mr. Woolf testified that costs of doing business generally improve system reliability and, therefore, serve to lower customer bills. He added that if such

Counsel for National Grid informed the Commission that the Company was in the process of adding a message about energy efficiency to the customer bill in order to draw customer awareness to the energy efficiency charge.¹⁰¹

Mr. Woolf said the TRC test is based on the California Standard Practice Manual, and although the TRC Test is the most widely used cost-effectiveness test in the country, there is debate over whether widespread acceptance of the test should continue.¹⁰² Mr. Woolf criticized the California Standard Practice Manual for being outdated and flawed in many respects.¹⁰³ One of the biggest flaws of the California Standard Practice Manual, according to Mr. Woolf, is its failure to incorporate energy policy goals into the cost-effectiveness test.¹⁰⁴ Mr. Woolf said the Commission should not feel confined to the narrowly defined tests in the California manual and urged the Commission to incorporate Rhode Island's energy policy into the TRC test.¹⁰⁵

Mr. Woolf discussed the rate impacts of energy efficiency programs. He testified that the average, long-term rate impacts of aggressive energy efficiency programs are relatively small.¹⁰⁶ Energy efficiency programs result in an average reduction in customer bills, but the degree of reduction, of course, depends on the program the customer participates in.¹⁰⁷ Mr. Woolf noted that increasing participation in energy efficiency programs can help alleviate cross-subsidization of these programs.¹⁰⁸

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costs to improve reliability were not expended by the Company, customer bills would be higher, the implication, of course, being that the cost to deliver energy efficiency, i.e. the energy efficiency charge, serves to lower customer bills. *Id.* at 47.

¹⁰¹ *Id.* at 51.

¹⁰² *Id.* at 154-155.

¹⁰³ *Id.* at 154-156.

¹⁰⁴ *Id.* at 156.

¹⁰⁵ *Id.* at 156-162.

¹⁰⁶ *Id.* at 168.

¹⁰⁷ *Id.* at 168.

¹⁰⁸ *Id.*

The Commission first established Energy Efficiency Procurement Standards and System Reliability Standards (Standards or LCP Standards) on June 1, 2008 pursuant to the Least Cost Procurement Act.¹⁰⁹ The Standards are subject to periodic review and amendment every 3 years.¹¹⁰ The purpose of the Standards is to guide the development of National Grid's 3-year Energy Efficiency Procurement and System Reliability Plans filed on September 1. The Act designates either the Commissioner of OER or the EERMC (Council), or both, as the entity/entities for recommending revisions to the Standards.¹¹¹ The Council recommended revisions to the Standards on March 1, 2014 and additional revisions on May 27 following the technical session held on May 22, 2014. The Council's proposed revisions were reviewed by the Division's consultant, Tim Wolf, who filed a memorandum on May 13 in support of the proposed Standards but also recommended a few additional revisions which are discussed below. Following is an overview of the Council's proposed revisions to the LCP Standards.¹¹²

The Council recommended changing the filing date for the annual energy efficiency plan was changed from November 1 to October 15, except in years in which a 3-year plan is filed. In years in which a 3-year plan is filed, the Council recommended keeping the existing filing date of November 1.¹¹³ The Company will file the plan with the Division and the Council one week prior to its scheduled meeting prior to the filing date.¹¹⁴

¹⁰⁹ R.I. Gen. Laws §39-1-27.2(a).

¹¹⁰ R.I. Gen. Laws §39-1-27.7(b).

¹¹¹ R.I. Gen. Laws §39-1-27.7(c)(1).

¹¹² Unless otherwise specified, revisions refer to the draft filed by the Council on May 27, 2014. Stylistic revisions or revisions that reflect the Company's existing practices or methods of planning/developing the annual plan have been omitted.

¹¹³ EERMC's Proposed Revisions to LCP Standards filed May 27, 2014, hereinafter LCP Revisions 05/27, at Section 1.1B. The Company argued against changing the filing date to October 1, the Division's initial recommendation, but was amenable to an October 15 filing date in non-triennial plan years. National Grid Reply Comments.

¹¹⁴ LCP Standards at Section 1.4G.

The Council recommended adding a provision in the Standards which states that the annual plans should address new and emerging least cost procurement issues.¹¹⁵ The Council identified gas service expansion as one of the emerging trends the Company might consider addressing in the plan. The Company testified at the hearing that this provision would allow the Company to explore the possibility of incorporating some new elements into the plan, but it recognized that it may not be possible to do this.¹¹⁶ It also clarified it did not give energy efficiency rebates for gas conversions; although it conceded that gas conversions are a prime opportunity for customers to upgrade to high efficiency gas equipment.¹¹⁷

The Council recommended including resource impacts and non-energy benefits in the TRC test analysis but only to specific programs or technologies such as income-eligible programs or combined heat and power.¹¹⁸ This recommendation is partially consistent with the Rhode Island General Laws which requires the consideration of non-energy benefits in the development of combined heat and power. There does not appear to be a similar provision in the General Laws, however, for income-eligible programs.¹¹⁹ The Company pointed out at the hearing that non-energy impacts are currently reported in the TRM and are thus already part of the TRC test analysis.¹²⁰

The Council proposed a provision in the LCP Standards that would include in the TRC test greenhouse gas reduction benefits and costs associated with natural gas or delivered fuel energy efficiency or displacement.¹²¹ The Division recommended that this provision be extended to include in the TRC test utility system costs associated with reasonably anticipated future

¹¹⁵ LCP Standards at Section 1.2Ai(e).

¹¹⁶ Transcript (05/22/14) at 163.

¹¹⁷ *Id.* at 163-165.

¹¹⁸ LCP Standards at Section 1.2Aii(a).

¹¹⁹ R.I. General Laws Sec. 39-1-27.7(c)(6)(iii).

¹²⁰ Transcript (05/22/14), p.128.

¹²¹ LCP Standards at Section 1.2Aii(b).

greenhouse gas requirements at the state, regional, or federal level for both electric and gas programs.¹²² Per the Division's request, the Council incorporated this revision in the Standards to ensure that all environmental compliance costs are included in the TRC Test, regardless of whether they are identifiable, quantifiable, and/or actually being imposed.¹²³ According to Mr. Woolf, this revision is consistent with the approach taken by many other states, including the five other New England states.¹²⁴

The Council proposed LCP provisions in response to questions or data requests posed by the Commission. The Council proposed that projected benefits and costs of energy efficiency should be calculated using a low-risk discount rate. This is a departure from the Standards which currently do not specify a methodology for determining a discount rate. The new provision states that the discount rate will reflect that energy efficiency is a low-risk resource in terms of cost of capital risk, project risk, and portfolio risk.¹²⁵ It further states that the discount rate will be reviewed and updated annually, as appropriate.¹²⁶ Additionally, the Council proposed a provision that would require the Company to report on participation levels across all program sectors.¹²⁷ Finally, the Council removed references to the purpose of the Decoupling Act.¹²⁸ This revision was included at the request of Commissioner Roberti who felt the characterization of decoupling as a disincentive for aggressive pursuit of energy efficiency was debatable.

The Council recommended the following other provisions for inclusion in the LCP Standards:

¹²² Memorandum of Timothy Woolf, Synapse Energy Economics at 2 (05/13/14) .

¹²³ LCP Standards at Section 1.2Aii(b).

¹²⁴ Transcript (05/22/14) at 119-120.

¹²⁵ LCP Standards at Section 1.2Aii(c).

¹²⁶ *Id.*

¹²⁷ *Id.* Section 1.3Ei.

¹²⁸ *Id.* at Section 1.2Bi.

- The Company will include typical bill impacts in its annual Energy Efficiency Program Plan.¹²⁹
- The Company will no longer be required to, but *may*, include in its portfolio cost-effectiveness analysis the potential avoided cost of CO2 mitigation.¹³⁰
- The annual plans will address where appropriate energy efficiency opportunities for delivered fuels.¹³¹
- Longer term studies will be relied upon, as appropriate, in evaluating energy efficiency programs over time.¹³²
- The Council will submit its cost effectiveness report 2 weeks following the filing of the Plans.¹³³
- Electric vehicles and metering option such as time-varying rates will be included as types of non-wires alternatives to be pursued by the Company as part of its annual System Reliability Plans.¹³⁴
- The Company may propose rate design changes to promote some of the areas to be addressed in upcoming energy efficiency and system reliability plans, such as grid modernization, demand management and optimization of grid performance using the customer side resources. The Council conceded that separate PUC approval would be required for any proposed rate design changes.¹³⁵

VII. Technical Session- Least Cost Procurement Standards

¹²⁹ *Id.* at §1.3Biii.

¹³⁰ *Id.* at §1.3Biv.

¹³¹ *Id.* at §1.3Civ.

¹³² *Id.* at §1.3Dii(e).

¹³³ *Id.* at §1.4i.

¹³⁴ *Id.* at §2.1B(f) and (g).

¹³⁵ *Id.* at §3.1; See also EERMC's response to Commission 1-1(c).

A technical session was held on May 22, 2014 wherein the Council presented its proposed 2014 revisions to the Least Cost Procurement Standards and responded to questioning from the Commission.¹³⁶ Mr. Parker reviewed the proposed revisions to the Least Cost Procurement Standards. He confirmed that one of the revisions proposed by the Council would allow the Company to monetize carbon dioxide emission reductions for gas efficiency programs.¹³⁷ He also confirmed that the Council was proposing to apply the Division's reasonably anticipated future greenhouse gas provision to both the electric and gas sector.¹³⁸ Finally, Mr. Parker clarified that the Council was proposing to include non-energy impacts in the TRC test but only for specific programs or technologies, such as income-eligible programs or combined heat and power.¹³⁹

There was discussion about the Division's proposal to change the filing date of the Company's annual Energy Efficiency Program Plan from November 1 to October 1. Mr. Woolf expressed the view that the current timeline for the parties to review the Plan is too tight.¹⁴⁰ Mr. Woolf was asked to respond to the Company's reasons for objecting to an October 1 filing date. Specifically, he was asked to respond to the Company's claim that an earlier filing date would impede the ability to receive and review recent load forecasts and evaluation studies related to the filing. Mr. Woolf testified that the load forecasts do not need to be finalized before the filing of the annual Plan.¹⁴¹ He also felt that evaluation studies should not hamper the ability of the Company to file the annual plan on October 1, given that the Company typically relies upon the

¹³⁶ The following attorneys entered appearances: Jennifer Brooks Hutchinson, on behalf of National Grid; Jon Hagopian, on behalf of the Division of Public Utilities and Carriers; Karen Lyons, representing the Rhode Island Attorney General; and Amy D'Alessandro, representing the PUC.

¹³⁷ Transcript at 40-41.

¹³⁸ *Id.* at 41.

¹³⁹ *Id.* at 42.

¹⁴⁰ *Id.* at 93.

¹⁴¹ *Id.* at 91-92.

most recent evaluation study until a new one is completed.¹⁴² National Grid witness, Jeremy Newberger, testified that the Company is limited as to how early the filing date can be moved, particularly where the Company is working on completing the energy efficiency year-end report on May 1.¹⁴³ The parties discussed the statutory 60-day approval requirement and whether this would effectively nullify any advantage to be gained from an earlier filing date. Counsel for National Grid indicated that the Company strongly supported an approval before January 1, noting that an approval subsequent to January 1 would likely result in an increased system benefit charge since the charge is calculated based on the twelve month period from January 1 through December 1.¹⁴⁴ Counsel for National Grid reiterated that the Company would be amenable to an alternative filing date of October 15, except in years in which a triennial plan is filed.¹⁴⁵ Due to the fact that there is a significant overlapping of issues between the 3-year and annual Plans, the Company felt it would be more efficient to retain a November 1 filing date in years in which a triennial plan is filed.¹⁴⁶

Mr. Woolf explained why he proposed, on behalf of the Division, to expand the inclusion of RGGI costs in the TRC test (for gas and electric) to also include reasonably anticipated future greenhouse gas requirements at the state, regional, or federal level. Mr. Woolf's explanation centered on the EPA's Proposed Rule pursuant to Section 111(d) of the Clean Air Act, issued June 2, 2014 (Clean Power Plan). Mr. Woolf testified that since the Clean Power Plan was proposed in June of this year, it is safe to assume that state emissions regulations will be forthcoming in the near future. According to Mr. Woolf, utilities in many states are anticipating the passage of emissions regulations pursuant to the Clean Power Plan and have incorporated this

¹⁴² *Id.* at 92-93.

¹⁴³ *Id.* at 105-106.

¹⁴⁴ *Id.* at 102.

¹⁴⁵ *Id.* at 102-103.

¹⁴⁶ *Id.* at 103-104.

assumption into their resource and energy efficiency planning.¹⁴⁷ Based on an avoided cost study, the New England states have assumed that beginning in 2020, the cost of CO2 will be \$20 per ton, but between now and 2020 the cost is \$0.¹⁴⁸ Commissioner Roberti expressed concern that the proposal to monetize CO2 reductions for purposes of cost-effectiveness may be premature given the state's current lack of a 111(d) implementation plan.¹⁴⁹ He also felt methane emissions should not be included in the cost-effectiveness analysis given that methane emissions are currently unregulated at the state and federal level.¹⁵⁰ Mr. Woolf agreed that methane is currently not regulated and that it is unknown whether and to what extent there will be future regulation of methane. In light of this uncertainty, Mr. Woolf suggested that the monetization of methane for purposes of analyzing the cost-effectiveness of energy efficiency programs is a decision left to state regulators.¹⁵¹

VIII. Decision

On March 27, 2014, The PUC voted unanimously to approve the Energy Efficiency Savings Targets proposed by the EERMC. The PUC found, based on the record, that the Targets reasonably reflect Rhode Island's energy efficiency potential projected over the 3 year period from 2015-2017. The Division supported approval of the Targets which will provide guidance to National Grid in the planning and development of the 2015-2017 Energy Efficiency and System Reliability Procurement Plan. Consistent with prior years, National Grid will review the Targets annually and revise them, if necessary.

The technical session regarding the TRC test revealed that the test is serving the purpose it was designed to serve, to evaluate the cost-effectiveness of energy efficiency measures,

¹⁴⁷ *Id.* at 120.

¹⁴⁸ *Id.* at 123. Avoided Energy Supply Costs in New England: 2013 Report by Synapse Energy Economics.

¹⁴⁹ *Id.* at 33-34.

¹⁵⁰ *Id.* at 29, 32

¹⁵¹ *Id.* at 121-122.

programs and portfolios taking into consideration the legislative policies of this state. The Division supports Rhode Island's application of the TRC test to the energy efficiency plans, and there was no evidence to support the adoption of a different cost-effectiveness test. An issue was raised, however, about the transparency of the Technical Reference Manual. The Company conceded that the TRM does not include cost assumptions and methodologies in the TRM. The TRM only evaluates the savings of energy efficiency measures. The PUC found that the TRM should include the costs of National Grid's energy efficiency programs, and the methodology used to calculate such costs. The Company testified that it could update the TRM to include costs by March 31, 2015.¹⁵²

On June 10, 2014, the PUC voted unanimously to approve the 2015-2017 Least Cost Procurement Standards proposed by the EERMC. The revisions to the Standards include recommendations of both the Division and the Commission and are supported by both National Grid and the Division.

Accordingly, it is hereby

(21767) ORDERED:

1. The Energy Efficiency and Resource Management Council's 2015-2017 Energy Efficiency Natural Gas and Electric Savings Targets are approved as filed on September 1, 2013, and the same are attached hereto as Appendix A, effective March 27, 2014.
2. The revised Least Cost Procurement Standards are approved as filed on May 27, 2014, and the same are attached hereto as Appendix B, effective June 10, 2014.

¹⁵² National Grid's Response to PUC 1-3; Transcript (05/08/14) at 21-22, 30-31.


3. Pursuant to these revised Least Cost Procurement Standards approved herein, Narragansett Electric Company d/b/a National Grid shall file the Energy Efficiency and System Reliability Program Plan each year on October 15, except as provided herein. In any year in which the Company is required to file a triennial Energy Efficiency Procurement Plan, the Company shall file the Energy Efficiency and System Reliability Program Plan by November 1.
4. By March 31, 2015, Narragansett Electric Company d/b/a National Grid shall update its Technical Reference Manual to include the methodologies and assumptions used to calculate the costs of its energy efficiency programs.


EFFECTIVE AT WARWICK, RHODE ISLAND ON MARCH 27, 2014 AND JUNE 10, 2014 PURSUANT TO OPEN MEETING DECISIONS. WRITTEN ORDER ISSUED DECEMBER 31, 2014.

PUBLIC UTILITIES COMMISSION




Margaret E. Curran, Chairperson


Paul J. Roberti, Commissioner


Herbert F. DeSimone, Commissioner

NOTICE OF RIGHT OF APPEAL: Pursuant to R.I. Gen. Laws §39-5-1, any person aggrieved by a decision or order of the PUC may, within seven (7) days from the date of the order, petition the Supreme Court for a Writ of Certiorari to review the legality and reasonableness of the decision or order.

APPENDIX A

ENERGY EFFICIENCY SAVINGS TARGETS APPROVED FOR 2015-2017¹⁵³

<u>Year</u>	<u>Electric</u>	<u>Gas</u>
2015	2.50%	1.00%
2016	2.55%	1.05%
2017	2.60%	1.10%

<u>Year</u>	<u>Electric</u>	<u>Gas</u>
2015	193,603 MWh	376,915 MMBtu
2016	197,475 MWh	395,760 MMBtu
2017	201,347 MWh	414,606 MMBtu

<u>Year</u>	<u>Summer Demand</u>	<u>Winter Demand</u>
2015	27,268 kW	27,658 kW
2016	27,813 kW	28,211 kW
2017	28,359 kW	28,764 kW

¹⁵³ Percentages are based on 2012 electric and natural gas sales.

APPENDIX B

LEAST COST PROCUREMENT STANDARDS

CHAPTER 1 – Energy Efficiency Procurement

1. Section 1.1 Plan Filing Dates

- A. The Utility Energy Efficiency Procurement Plan (“The EE Procurement Plan”) submitted on September 1, 2008 and triennially thereafter on September 1, shall propose overall budgets and efficiency targets for the three years of implementation beginning with January 1 of the following year.
- B. The Utility shall prepare and file a supplemental filing containing details of implementation plans by program for the next program year (“The EE Program Plan”). Beginning in 2014, the EE Program Plan shall be filed on October 15 except in years in which an EE Procurement Plan is filed; in those years, the EE Program Plan filing shall be made on November 1. The EE Program Plan filings shall also provide for adjustment, as necessary, to the remaining years of the EE Procurement Plan based on experience, ramp-up, and increased assessment of the resource levels available.

2. Section 1.2 EE Procurement Plan Components

- A. The EE Procurement Plan shall identify the strategies and an approach to planning and implementation of programs that will secure all cost-effective energy efficiency resources that are lower cost than supply and are prudent and reliable.
 - i. Strategies and approaches to planning.
 - a. The Utility shall use the Council’s Opportunity Report as issued on July 15, 2008 (and as it may be subsequently supplemented or updated to identify the cost effective energy efficiency potential and opportunities) as one resource among others in developing its EE Procurement Plan. The Utility may include in its Plans an outline of proposed strategies to supplement and build upon the initial Opportunity Report
 - b. The EE Procurement Plan shall describe the recent energy efficiency programs offered by the Utility and highlight how the EE Procurement Plan supplements and expands upon these offerings, including but not limited to new measures, implementation strategies, measures specifically intended for demand management, new strategies to make capital available to effectively overcome market barriers, and new programs as appropriate.
 - c. The EE Procurement Plan shall include a section describing a proposal to investigate new strategies to make available the capital needed to implement projects in addition to the incentives provided. Such proposed strategies shall move beyond traditional financing strategies and shall

include new capital availability strategies that effectively overcome market barriers in each market segment in which it is feasible to do so.

- d. The EE Procurement Plan shall address how the utility plans to integrate gas and electric energy efficiency programs to optimize customer energy efficiency.
- e. The EE Procurement Plan should address new and emerging issues as they relate to least cost procurement (CHP, strategic electrification, integration of grid modernization, gas service expansion, etc.), as appropriate, including how they may provide system, customer, environmental and societal benefits.

ii. Cost-effectiveness

- a. The Utility shall assess measure, program and portfolio cost-effectiveness according to the Total Resource Cost test (“TRC”)¹⁵⁴. 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 and include them in the EE Procurement Plan. These benefits may include resource impacts and non-energy impacts. The accrual of non-energy impacts to only specific programs or technologies, such as income-eligible programs or combined heat and power, may be considered.
- 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. The test shall also include any other utility system costs associated with reasonably anticipated future greenhouse gas reduction requirements at the state, regional, or federal level for both electric and gas programs. A comparable benefit for greenhouse gas reduction resulting from natural gas or delivered fuel energy efficiency or displacement may be considered.
- c. Benefits and costs that are projected to occur over the term of each EE Program Plan shall be stated in present value terms in the TRC test calculation, using a discount rate that appropriately reflects the risks and rewards of the investment of customer funds in energy efficiency; in other words, a low-risk discount rate which would indicate that energy efficiency is a low-risk resource, and also low-risk in terms of cost of capital risk, project risk, and portfolio risk. The discount rate shall be reviewed and updated for each EE Program Plan, as appropriate, to ensure that the applied discount rate is based on the most recent information available.
- d. The utility shall provide a discussion of the carbon impacts efficiency and reliability investment plans will create.

iii. Prudence and Reliability

¹⁵⁴ Since the focus of the Rhode Island legislation is on securing customer benefits, not just Utility benefits from energy efficiency procurement, the TRC test is recommended.

- a. In the initial three-year EE Procurement Plan, a ramp-up to achieve all cost-effective efficiency lower cost than supply shall be proposed by the Utility that is both aggressive in securing energy, capacity, and system cost savings and is also designed to ensure the programs will be delivered successfully and cost-effectively over the long term¹⁵⁵. The proposed ramp-up will appropriately balance the significant cost saving efficiency investment opportunity that is identified and the near-term capacity and staffing issues within the utility and vendor community with an emphasis on ensuring an aggressive and sustainable ramp-up of program investments over time.
- b. Subsequent Least Cost Procurement Plans shall be developed to propose strategies to achieve the energy efficiency savings targets that shall be approved by the Commission for that three year period. Such strategies shall continue to secure energy, capacity, and system benefits and also be designed to ensure the programs will be delivered successfully and cost-effectively over the long term. In addition to satisfying other provisions of these Standards, the EE Procurement Plan shall continue to contribute to a sustainable energy efficiency economy in Rhode Island, respond to and transform evolving market conditions, strive to increase participation, and provide widespread consumer benefits.
- c. EE Procurement Plan efficiency investments shall be made on behalf of all customers. This will ensure consistency with existing program structure under which all customers pay for and benefit from today's efficiency programs.
- d. The EE Procurement Plan should describe how it interacts with the System Reliability Procurement Plan.

iv. Funding Plan and Initial Goals

- a. The Utility shall develop a funding plan using, as necessary, the following sources of funding to meet the budget requirement of the EE Procurement Plan and fulfill the statutory mandate of Least Cost Procurement. The Utility shall utilize as necessary, the following sources of funding for the efficiency program investments:
 - (1) the existing System Benefits Charge ("SBC");
 - (2) revenues resulting from the participation of energy efficiency resources in ISO-New England's forward capacity market ("FCM").

¹⁵⁵ The Utility may propose a study or studies to investigate and document current energy efficiency program infrastructure in Rhode Island; to assess the ability of the infrastructure to meet increased demand for energy efficiency services; and to make recommendations for increasing capacity if needed. Any such report should address: staffing levels and ability to expand staffing; training and experience of staff; current workloads; interest in working with utility program sponsors; statewide coverage of services; and other relevant factors. Where appropriate, the Utility may partner with research efforts of this sort that are regional in nature or in other jurisdictions, so long as they provide pertinent information for building the Rhode Island infrastructure. The costs of these plans and the actions to implement them may be included as program costs.

- (3) proceeds from the auction of Regional Greenhouse Gas Initiative (RGGI) allowances pursuant to § 23-82.6 of the General Laws;
 - (4) funds from any state, federal, or international climate or cap and trade legislation or regulation including but not limited to revenue or allowances allocated to expand energy efficiency programs;
 - (5) a fully reconciling funding mechanism, pursuant to R.I.G.L. § 39-1-27.7, which is a funding mechanism to be relied upon after the other sources as needed to fully fund cost-effective electric and gas energy efficiency programs to ensure the legislative mandate to procure all cost effective efficiency that is lower cost than supply is met.
 - (6) other sources as may be identified by the EERMC and the Utility
- b. The Utility shall include a preliminary budget for the EE Procurement Plan covering the three-year period that identifies the projected costs, benefits, and initial energy saving goals of the portfolio for each year. The budget shall identify at the portfolio level, the projected cost of efficiency resources in cents/ lifetime kWh. The preliminary budget and initial energy saving goals may be updated in the Utility's EE Program Plan.

B. Efficiency Performance Incentive Plan

- i. Pursuant to R.I.G.L. § 39-1-27.7(e) and § 39-1-27.7.1, the Utility shall have an opportunity to earn a shareholder incentive that is dependent on its performance in implementing the approved EE Procurement Plan
 - a. The Utility, in consultation with the Council, will propose in its EE Procurement Plan a Performance Incentive (PI) proposal that is designed to promote superior Utility performance in cost-effectively and efficiently securing for customers all efficiency resources lower cost than supply.
 - b. The Performance Incentive should be structured to reward program performance that makes significant progress in securing all cost-effective efficiency resources that are lower cost than supply while at the same time ensuring that those resources are secured as efficiently as possible.
 - c. The Utility PI model currently in place in RI should be reviewed by the Utility and the Council. The Utility and Council shall also review incentive programs and designs in other jurisdictions including those with penalties and increasing levels of incentives based on higher levels of performance.
 - d. The PI may provide incentives for other objectives that are consistent with the goals including but not limited to comprehensiveness, customer equity, increased customer access to capital, and market transformation.
 - e. The PI should be sufficient to provide a high level of motivation for excellent Utility performance annually and over the three year period of the EE Procurement Plan, but modest enough to ensure that customers receive most of the benefit from energy efficiency implementation.

3. Section 1.3 EE Program Plan Components

A. Principles of Program Design

- i. The EE Program Plan shall identify the specific energy efficiency programs proposed for implementation by the Utility, pursuant to the EE Procurement Plan.
- ii. The Utility should consistently design programs and strategies to ensure that all customers have an opportunity to benefit comprehensively, where appropriate, from expanded investments in this low-cost resource and the programs should be designed and implemented in a coordinated fashion by the utility, in active and ongoing consultation with the Council.
- iii. The Utility shall propose a portfolio of programs in the EE Program Plan that is cost-effective. Any program with a benefit cost ratio greater than 1.0 (i.e., where benefits are greater than costs), should be considered cost-effective. The portfolio must be cost-effective and programs should be cost-effective, except as noted below.
 - a. The Utility shall be allowed to direct a portion of proposed funding to conduct research and development and pilot program initiatives. These efforts will not be subject to cost-effectiveness considerations. However, the costs of these initiatives shall be included in the assessment of portfolio level cost-effectiveness.
 - b. The Utility shall allocate funds to the Energy Efficiency and Resource Management Council and Office of Energy Resources as specified in R.I.G.L. § 39-2-1.2. These allocations will not be subject to cost-effectiveness considerations. However, these costs shall be included in the assessment of portfolio level cost-effectiveness.
- iv. All efforts to establish and maintain program capability as identified in Section 1.2 A iii shall be done in a manner that ensures quality delivery and is economical and efficient. The utility shall include wherever possible and practical partnerships with existing educational and job training entities.
- v. The portfolio of programs proposed by the Utility should be designed to ensure that different sectors and all customers receive opportunities to secure efficiency resources lower cost than the cost of supply
- vi. While it is anticipated that rough parity among sectors can be maintained, as the limits of what is cost-effective are identified, there may be more efficiency opportunities identified in one sector than another. The Utility should design programs to capture all resources that are cost-effective and lower cost than supply. The Utility should consult with the Council to address ongoing issues of Parity
 - vii. The Utility shall explore as part of its plan, new strategies to make available the capital needed to effectively overcome market barriers and implement projects that moves beyond traditional financing strategies.

B. Final Funding Plan and Budget Amounts, Cost-Effectiveness and Goals

- i. The Utility shall include a detailed budget for the EE Program Plan covering the annual period beginning the following January 1, that identifies the projected costs, benefits, and energy saving goals of the portfolio and of each program. The budget shall identify at the portfolio level the projected total resource cost of efficiency resources in cents/ lifetime kWh.
- ii. The EE Program plans filed November 1 will reflect program implementation experience and anticipated changes, shifts in customer demand, changing market costs, and other factors, as noted in Section 1 above. The annual detailed budget update shall include the projected costs, benefits, and energy saving goals of each program as well as the total resource cost of efficiency resources in cents/ lifetime kWh.
- iii. The EE Program Plan shall identify the energy cost savings and typical bill impacts that RI ratepayers will realize through its implementation.
 - iv. In order to assess the potential effect of greenhouse gas reduction costs, the Utility, upon consultation with the Council, may conduct and report in the EE Program Plan filing a sensitivity analysis of the cost-effectiveness of the proposed portfolio of programs that includes a “potential” avoided cost for CO2 mitigation that is agreed upon among the parties.

C. Program Descriptions

- i. Utility program development shall proceed by building upon what has been learned to date in utility program experience, systematically identifying new opportunities and pursuing comprehensiveness of measure implementation as appropriate and feasible.
- ii. The Utility shall, as part of its EE Program Plan, describe each program, how it will be implemented, and the total costs and benefits associated with the efficiency investments
- iii. The Utility plan shall describe in each appropriate program section a plan to devise new strategies to make available the capital needed in addition to the incentives provided to implement measures.
- iv. In addition to these basic requirements, the plan shall address, where appropriate, the following elements:
 - a. Comprehensiveness of opportunities addressed at customer facilities
 - b. Integration of electric and natural gas energy efficiency implementation and delivery (while still tracking the cost-effectiveness of programs by fuel); energy efficiency opportunities for delivered fuels customers should be addressed to the extent possible
 - c. Integration of energy efficiency programs with renewables and other system reliability procurement plan elements
 - d. Promotion of the effectiveness and efficiency levels of Codes and standards and other market transforming strategies. If the utility takes a proactive role in researching, developing and implementing such

strategies, it may, after consultation with the Council, propose a mechanism to claim credit for a portion of the resulting savings.

- e. Implementation, where cost-effective, of demand response measures or other programs that are integrated into the electric and natural gas efficiency program offerings. Such measures/programs will be designed to supplement cost-effective procurement of long-term energy and capacity savings from efficiency measures.

D. Monitoring & Evaluation (M&E) Plan

- i. The Utility shall, after consultation with the Council, include a Monitoring and Evaluation (“M & E”) component in its EE Program Plan.
- ii. This M & E component shall address at least the following:
 - a. a component that addresses savings verification including, where appropriate, analysis of customer usage; such savings verification should also facilitate participation in ISO-NE’s forward capacity market;
 - b. a component that will address issues of ongoing program design and effectiveness;
 - c. any other issues, for example, efforts related to market assessment and methodologies to claim savings from market effects, among others;
 - d. a discussion of Regional and other cooperative M & E efforts the Utility is participating in or plans to participate in; and
 - e. longer term studies as appropriate, to assess programs over time.
- iii. The Utility shall include in its M & E component any changes it proposes to the frequency and level of detail of utility program plan filing and subsequent reporting of results.

E. Reporting Requirements

- i. The Utility, in consultation with the Council, will propose the content to be reported and a reporting format that is designed to communicate clearly and effectively the benefits of the efforts planned and implemented, with particular focus on energy cost savings and program participation levels across all sectors, to secure all EE resources that are lower cost than supply.

4. Section 1.4 Role of the Council

- A. The Council shall take a leadership role in ensuring that Rhode Island ratepayers receive excellent value from the EE Procurement Plan being implemented on their behalf. The Council shall do this by collaborating closely with the Utility on design and implementation of the Monitoring and Evaluation efforts presented by the Utility under the terms of Section 1.3 D, and if necessary, provide recommendations for modification that will strengthen the assessment of utility programs.

- B. As part of the Council's April 15 annual report required by R.I.G.L. §42-140.1-5 the Council shall report on program performance and whether program costs are justified, given the intent of the enabling legislation. The Council shall also report on the effectiveness of any performance incentive approved by the PUC in achieving the objectives of efficient and cost-effective procurement of all efficiency resources lower cost than supply and the level of its success in mitigating the cost and variability of electric service by reducing customer usage.
- C. In addition to the other roles for the Council indicated in this filing, the Utility shall seek ongoing input from, and collaboration with the Council on development of the EE Procurement and Program Plans, and on development of annual updates, if any, to the EE Procurement Plan.
- D. The Utility and the Council shall report to the PUC a process for Council input and review of its 2008 EE Procurement Plan and EE Program Plan by July 15, 2008 and triennially thereafter.
- E. The Council shall vote whether to endorse the EE Procurement Plan by August 15, 2008 and triennially thereafter. If the Council does not endorse the Plan then the Council shall document the reasons and submit comments on the Plan to the PUC for their consideration in final review of the Plan.
- F. The Utility shall, in consultation with the Council, propose a process for Council input and review of its EE Procurement Plan and EE Program Plan. This process is intended to build on the mutual expertise and interests of the Council and the Utility, as well as meet the oversight responsibilities of the Council.
- G. The Utility shall submit a draft annual EE Program Plan to the Council and the Division of Public Utilities and Carriers for their review and comment annually at least one week before the Council's scheduled meeting prior to the filing date that year.
- H. The Council shall vote whether to endorse the annual EE Program Plan prior to the prescribed filing date, annually. If the Council does not endorse the annual EE Program Plan, the Council shall document its reasons and submit comments on the Plan to the PUC for its consideration in final review of the Plan.
- I. The Council shall prepare memos on its assessment of the cost effectiveness of the Least Cost Procurement Plan and annual EE Program Plans, pursuant to R.I.G.L. §39-1-27.7(c)(5), and submit them to the PUC no later than two weeks following the filing of the respective Plans with the Commission.

CHAPTER 2 - System Reliability Procurement

Section 2.1 Distributed/Targeted Resources in Relation to T &D Investments

- A. The Utility System Reliability Procurement Plan ("The SRP Plan") to be submitted for the Commission's review and approval on September 1, 2011 and triennially thereafter on September 1, shall propose general planning principles and potential areas of focus that incorporate non-wires alternatives (NWA) into National Grid's ("the Company") distribution planning process for the three years of implementation beginning January 1 of the following year. The System Reliability Procurement Plan should be integrated with the Energy Efficiency Procurement Plan and designed to manage demand and optimize grid performance, using customer side resources.
- B. Non-Wires Alternatives (NWA) may include but are not limited to:
- Least Cost Procurement energy efficiency baseline services.
 - Peak demand and geographically-focused supplemental energy efficiency strategies
 - Distributed generation generally, including combined heat and power and renewable energy resources (predominately wind and solar, but not constrained)¹⁵⁶
 - Demand response
 - Direct load control
 - Energy storage, including electric vehicles
 - Alternative metering and tariff options, including time-varying rates
- C. Investments in grid-facing technologies that further optimize grid performance may be considered and coordinated with the System Reliability Procurement Plan.¹⁵⁷
- D. Identified transmission or distribution (T &D) projects with a proposed solution that meet the following criteria will be evaluated for potential NWAs that could reduce, avoid or defer the T&D wires solution over an identified time period.
- The need is not based on asset condition.
 - The wires solution, based on engineering judgment, will likely cost more than \$1 million;
 - If load reductions are necessary, then they are expected to be less than 20percent of the relevant peak load in the area of the defined need;
 - Start of wires alternative construction is at least 36 months in the future;
 - At its discretion the utility may consider and, if appropriate, propose a project that does not pass one or more of these criteria if it has reason to believe that a viable NWA solution exists, assuming the benefits of doing so justify the costs.
- A more detailed version of these criteria may be developed by the distribution utility with input from the Council and other stakeholders.
- E. Feasible NWAs will be compared to traditional solutions based on the following:
- Ability to meet the identified system needs;

¹⁵⁶In order to meet the statute's environmental goals, generation technologies must comply with all applicable general permitting regulations for smaller-scale electric generation facilities.

¹⁵⁷ "Grid-facing" investments may include technologies that automate grid operations and allow the distribution utility to monitor and control grid conditions in near real time. (Source: MA DPU Docket 12-76-A, pg. 2)

- b. Anticipated reliability of the alternatives;
 - c. Risks associated with each alternative (licensing and permitting, significant risks of stranded investment, sensitivity of alternatives to differences in load forecasts, emergence of new technologies)
 - d. Potential for synergy savings based on alternatives that address multiple needs
 - e. Operational complexity and flexibility
 - f. Implementation issues
 - g. Customer impacts to potentially modify usage at certain times and seasons
 - h. Other relevant factors
- F. Financial analyses of the preferred solution(s) and alternatives will be conducted to the extent feasible. The selection of analytical model(s) will be subject to Public Utilities Commission review and approval. Alternatives may include the determination of deferred investment savings from NWA. The selection of an NWA shall be informed by the considerations approved by the Public Utilities Commission which may include, but not be limited to, those issues enumerated in(D), the deferred revenue requirement savings and an evaluation of costs and benefits according to the Total Resource Cost test (TRC)¹⁵⁸. Consideration of the net present value of resulting revenue requirements may be used to inform the structure of utility cost recovery of NWA investments and to assess anticipated ratepayer rate and bill impacts.
- G. For each need where a NW A is the preferred solution, the distribution utility will develop an Implementation plan that includes the following:
- a. Characterization of the need
 - i. Identification of the load-based need, including the magnitude of the need, the shape of the load curve, the projected year and season by which a solution is needed, and other relevant timing issues.
 - ii. Identification and description of the T&D investment and how it would change as a result of the NWA.
 - iii. Identification of the level and duration of peak demand savings and/or other operational functionality required to avoid the need for the upgrade.
 - iv. Description of the sensitivity of the need and T&D investment to load forecast assumptions.
 - v. Ability of affected customers to participate in the proposed project
 - b. Description of the business as usual upgrade in terms of technology, net present value, costs (capital and O&M), revenue requirements, and schedule for the upgrade
 - c. Description of the NW A solution, including description of the NW A solution(s) in terms of technology, reliability, cost (capital and O&M), net present value, and timing.
 - d. Development of NWA investment scenario(s)
 - i. Specific NWA characteristics
 - ii. Development of an implementation plan, including ownership and contracting considerations or options
 - iii. Development of a detailed cost estimate (capital and O&M) and implementation schedule.

¹⁵⁸The TRC test may be appropriately modified to account for the value of reliability and other site-specific and NWA-appropriate costs, benefits, and risks.

H. Funding Plan

The Utility shall develop a funding plan based on the following sources to meet the budget requirement of the system reliability procurement plan. The Utility may propose to utilize funding from the following sources for system reliability investments:

- i. Capital funds that would otherwise be applied towards traditional wires based alternatives, where the costs for the NWA are properly capitalized under generally accepted accounting principles and can be properly placed in rate base for recovery in rates along with other ordinary infrastructure investments
 - ii. Existing Utility EE investments as required in Section I of these Standards and the resulting Annual Plans.
 - iii. Additional energy efficiency funds to the extent that the energy efficiency-related NWA can be shown to pass the TRC test with a benefit to cost ratio of greater than 1.0 and such additional funding is approved
 - iv. Utility operating expenses to the extent that recovery of such funding is explicitly allowed;
 - v. Identification of significant customer contribution or third party investment that may be part of a NWA based on benefits that are expected to accrue to the specific customers or third parties.
 - vi. Any other funding that might be required and available to complete the NWA.
- I. Annual SRP Plan reports should be submitted on November 1. Such reports will include but are not limited to:
- a. Identification of projects which passed the initial screening in section (C);
 - b. Identification of projects where NWA were selected as a preferred solution; and a summary of the comparative analysis following the criteria outlined in sections (D) and (E) above;
 - c. Implementation plan for the selected NWA projects;
 - d. Funding plan for the selected NWA projects;
 - e. Recommendations on pilot distribution and transmission project alternatives for which it will utilize selected NWA reliability and capacity strategies. These proposed pilot projects will be used to inform or revise the system reliability procurement process in subsequent plans;
 - f. Status of any previously selected and approved projects and pilots;
 - g. Identification of any methodological or analytical tools to be developed in the year;
 - h. Total SRP Plan budget, including administrative and evaluation costs.
- J. The Annual SRP Plan will be reviewed and funding approved by the Commission prior to implementation.
- K. To the extent the implementation of a NWA may contribute to an outage event that is beyond the control of the Company, the Company may apply to the Commission for an exclusion of such event in the determination of Service Quality performance.

Chapter 3: Aligning Utility Incentives & Reforming Rates

The Energy Efficiency and Resource Management Council and the Company shall review existing rates and incentive structures and, as needed, propose adjustments to align utility and consumer incentives with the objectives of Least Cost Procurement and System Reliability Procurement.