



STATE OF RHODE ISLAND
**ENERGY EFFICIENCY &
RESOURCE MANAGEMENT COUNCIL**

MEETING MINUTES

**Thursday, December 10, 2015
3:30 PM - 5:30 PM**

Conference Room B, 2nd Floor
Department of Administration, One Capitol Hill, Providence, RI

- Members Present:** Abigail Anthony, H. Robert Bacon, Joe Cirillo, Roberta Fagan, Marion Gold, Jennifer Hutchinson, Michael McAteer, Shigeru Osada, Chris Powell, Betsy Stubblefield Loucks, Karen Verrengia, Diane Williamson
- Members Absent:** Joe Newsome
- Consultants Present:** Mike Guerard, Rebecca Foster
- OER Staff Present:** Chris Kearns, Danny Musher, Rachel Sholly
- Others Present:** Sam Milton, Jeremy Newberger, Celia O'Brien, Fred Paine, Brigid Ryan, Belinda Wong, Chon Wong

1. Call to Order

Chairman Chris Powell called the meeting to order at 3:33 PM.

2. Approval of November Meeting Minutes

Bob Bacon made a motion to approve the November minutes as submitted. Karen Verrengia seconded and all approved.

Chairman Powell asked for a motion to move agenda item #8 (the SIRI presentation) to item #5 so that Jennifer and item. Ms. Verrengia made the motion, Joe Cirillo seconded and all approved.

3. Executive Director Report

Commissioner Marion Gold reported that the Governor held a press event on Tuesday where she signed an Executive Order to launch the State Lead by Example program. The Order outlines goals for the state sector to lead by example in energy efficiency and renewable energy within its facilities. A successful kickoff meeting was held to launch the Efficient Buildings Fund, a program of the new Rhode Island Infrastructure Bank. The Rhode Island Builders Association has been working on the Energy Expo at the Home Show and John Marcantonio will be invited to present at the January meeting to update the Council on planning progress. The consultant team, Danny Musher and the thermal working group did a lot of work during the past few months to explore how to best expand cost-effective efficiency services to the delivered fuels sector. The Oil Heat Institute, the American Petroleum Institute and the Propane Institute are at the table. Briefed the Governor's Office and the State House today and the OER is optimistic about making progress this year.

4. Executive Committee Report

Chairman Powell reported that most of what the Committee discussed will be covered in subsequent agenda items. There was a discussion of the consultant team rate escalation and what was agreed upon in the contract. This will be finalized at the next Executive Committee meeting. The Committee also began a discussion about energy efficiency data management, including a process for vetting information that is presented to the Council as well as a process for responding to data requests that come through the Council. There has been some discussion of creating a website to make data available to the public.

5. Presentation on Systems Integration Working Group Recommendations

Danny Musher from the Office of Energy Resources (OER) presented a summary of the recent recommendations developed by the Systems Integration Rhode Island (SIRI) working group. Betsy Stubblefield Loucks asked if there was a definition of “grid modernization” and how will we know when it has been achieved. Mr. Musher referenced goals established in the State Energy Plan, but noted that goal-setting was not the purpose of this effort. Jeremy Newberger added that the end has not yet been defined but forward progress is being made. Ms. Stubblefield Loucks clarified that her concern is related to equity issues and making sure that urgent needs, to which solutions already exist, are being addressed. Abigail Anthony said that if the goal is to extend benefits to all sectors equitably, the fundamentals of how the grid operates and is planned and how the company gets compensated have to change. Otherwise, the goals of consumers and the state will keep going one way, while the utility will be stuck in a regulatory environment that is outdated. It is critical to align the utility’s incentives with consumer goals. Mr. Musher added that no policy recommendations are being proposed at this time. Rather, SIRI is working to identify opportunities and remove barriers.

The next steps are to assign and prioritize the action items that have been identified. Ms. Stubblefield Loucks asked how the action items will be prioritized. Ms. Anthony said that one approach will be looking at how to make near-term decisions so future opportunities are not cut off. Ms. Stubblefield Loucks felt that it is important to be very intentional about decision-making and that there is an opportunity to be a bigger service and maximize non-energy benefits. Chairman Powell asked about the role of the EERMC in SIRI work. Mr. Musher responded that some of the recommendations fall into discussions happening at EERMC meetings or at Demand Collaborative meetings. Also, topics being discussed in various groups are starting to converge.

Once there is a plan on how to implement the recommendations, there will be various strategies and points at which to engage stakeholders. The OER will report back in the near future on next steps. Shigeru Osada asked about the time frame given the large scope of work. Mr. Musher replied that all the action items identified currently are first steps and intended to be implemented within 1-2 years.

6. Consultant Scope of Work

The Consultant Team will present its proposed scope of work for activities in 2016. The scope of work was reviewed by the Executive Committee and has been updated to reflect initial comments. Mr. Osada said that the three-year planning task is very big and wondered if the number hours allotted in the scope would be enough. He also expressed concern about variability and uncertainty in costs over these years. Mr. Guerard explained that others would be working on the savings targets as well, including the Demand Collaborative and the OER. Information from other jurisdictions will be considered so as not to reinvent the wheel. If there are gaps in understanding, the consultant team may recommend that the Council invest in an additional study to ensure that the targets are based on complete information.

7. Review of Draft EERMC 2016 Budget

The Council reviewed the draft 2016 budget, which had not changed since the November meeting. Chairman Powell invited Council members to propose additional items that the Council might want to fund. Appropriate uses of funds include consultants to conduct studies or evaluations to fill information gaps or needs in the sectors represented around the table.

8. Policy & Planning Issues

a) Update on PUC Rate Design Docket Proceeding

Chairman Powell noted that Marisa Desautel, legal counsel, provided a memo with updates related to the rate design docket proceeding. Rebecca Foster of VEIC reported that once National Grid submits its rebuttal, Scudder Parker will determine whether a surrebuttal is needed and bring that recommendation to the Council. The dates in the memo have been changed. Rebuttal testimony must be filed on December 16th and the intervenor testimony must be filed on January 6th.

b) Update on Finance Consultant Activities

Mr. Guerard reported on Dunsky's preliminary activities and noted that the consultant team has been helping them get grounded on how things are going in Rhode Island. The kick-off meeting for these efforts will be held next Tuesday afternoon and it is there where the team will get a better sense of where can they best apply their efforts to support good financing decisions. Alex Hill is planning on coming to the January Council meeting to give the Council to meet the group and get a better sense of priorities from the Council.

c) Discussion on Preparing for 2018-2020 Savings Targets

As a follow-up to last month's overview, Mr. Guerard updated the Council on recent and upcoming activity related to the development of energy savings targets. The EERMC must submit the targets to the PUC by September 1, 2016. The consultant team has been building a catalog of resources to inform the targets including potential studies done by National Grid in their other territories and studies and evaluations done in other states. Mr. Guerard emphasized that it is important to be starting now as it is a big undertaking and will involve a lot of discussion.

Ms. Osada said that other state targets may not be right for Rhode Island. Mr. Guerard replied that while that is true, they will still be considered in analysis to see if it is applicable. Diane Williamson asked if the Public Utilities Commission (PUC) has to accept the EERMC's target recommendations or if there is negotiation. Ms. Anthony said that the PUC will want to understand the data and analysis that is supporting the recommendation, which they can challenge. They have done this in the past and will likely do again. Mr. Guerard added that there may be additional complexity, such as how SIRI recommendations will influence targets.

9. Other Business

a) 2016 EERMC Meeting Calendar

The October meeting will be pushed back to September 29th to ensure that National Grid has sufficient time to submit its annual plan by the filing date is November 15th. The Council decided to keep the regular October meetings for the full Council and the Executive Committee. The Council discussed holding another retreat and also meeting at and touring Taco.

Mr. McAteer recommended that Council members read the Governor's new Executive Order on Leading by Example, which is very forward-thinking.

10. Public Comment

There was no public comment.

11. Adjournment

The meeting was adjourned at 5:50 PM.

MEMORANDUM

TO: EERMC
FROM: MARISA DESAUTEL, ESQ.
SUBJECT: UPDATE ON RATE DESIGN DOCKET PROCEEDING
DATE: DECEMBER 4, 2015

This Memorandum is supplied to members of the Energy Efficiency Resource Management Council (“EERMC”) upon request of the EERMC’s Executive Committee, made during its December 3, 2015 meeting.

The Rate Design Docket at the Public Utilities Commission is following the schedule below:

12/9/15 National Grid rebuttal testimony
12/30/15 Intervenor and Division surrebuttal testimony
1/19/16 – 1/21/16 Evidentiary hearing

The Consultant Team will review the rebuttal testimony filed by National Grid (if that testimony is filed) and will discuss their opinion(s) of that testimony with me shortly thereafter. The Consultant Team and I plan on filing surrebuttal testimony if the Consultant Team deems it necessary.

The evidentiary hearing will start with public comment, followed by National Grid’s testimony. The intervenors will begin their testimony when National Grid rests. It is not certain in which order the intervenors will testify, nor has it been determined how much time each party will have to testify. It is likely that the PUC attorney will create that schedule once the hearing is closer.

EERMC’s expert, Mr. Scudder Parker, will testify as to the direct testimony already filed with the PUC in this docket and any additional surrebuttal testimony filed in accordance with the above schedule.

While the EERMC voted to refrain from filing testimony on the so-called “access fee” in this docket, any testimony filed by other parties on that issue will be presented during the hearing, unless the parties reach agreement on the “access fee.”

Memorandum

To: Rhode Island EERMC
From: Scudder Parker & Mike Guerard - EERMC Consultant Team
Date: November 12, 2015
Subject: Upcoming activities and challenges to develop 2018-2020 Savings Targets

The C-Team proposes to begin discussions with the Energy Efficiency and Resource Management Council (EERMC) on the planning and required processes to effectively develop solid, defensible savings targets for the 2018-2020 Least Cost Procurement (LCP) Planning period.

I. Background

In 2010, the legislature adopted the ratemaking concept of revenue decoupling in R.I. Gen. Laws § 39-1-27.7.1. As part of this process, pursuant to § 39-1-27.7.1(f), the Council was required to submit proposed energy savings targets to the Public Utilities Commission (“PUC” or “Commission”) by September 1, 2010. The purpose of these targets was to give the utility guidance on the potentially available cost-effective efficiency resources in the state that would feed into the normal Least Cost Procurement 3-Year and annual efficiency program planning processes under § 39-1-27.7. During these normal planning processes required by Rhode Island law, the efficiency programs and budgets are developed by the utility and the cost-effectiveness of the budgets and programs is reviewed and approved by the Council before being filed with the Commission.

While Rhode Island Law § 39-1-27.7.1(f) only required one specific filing date for targets (September 1, 2010), it is understood as a responsibility of the Commission--and by extension the Council—under RIGL § 39-1-27.7(e)(4), that “the commission shall review and approve with any necessary amendments to performance-based energy savings targets developed and submitted by the Rhode Island energy efficiency and resources management council.” Since the LCP process is legislatively mandated to continue through 2024, and the submittal for approval of savings targets provided valuable support to the initial 3-Year Energy Efficiency and System Reliability Plan (3-Year Plan) filed by National Grid for the 2012-2014 period, the Council decided in 2013 that its analysis and resulting proposed targets would be of assistance to National Grid, the stakeholders, and the Commission in their development and evaluation of the 2015 – 2017 3-Year Plan.

As 2016 approaches (and assuming the same presumption of value) it is time to begin planning to set targets and the associated review and revision of the Least Cost Procurement Standards that will guide LCP and SRP procurement in Rhode Island for the next three-year cycle.

While this would be the third development and filing of 3-Year Savings Targets, and there will be some streamlining due to these prior experiences, it is important to note many of the unique challenges facing the Council this time. Quickly, a review of the previous efforts:

- The first set of targets filed on September 7, 2010, benefited from a recently completed, extensive potential study from KEMA: “The Opportunity for Energy Efficiency that is Cheaper than Supply in Rhode Island, Phase II Report.” (http://www.riermc.ri.gov/documents/KEMA_RI_EfficiencyOpportunityReport_PhaseII_August2010.pdf) In addition to KEMA’s year-plus of work, Council members, the Consultant Team and National Grid all contributed significant time to the effort. The resulting comprehensive document served as the solid basis for the first set of targets. (This project cost nearly \$400,000 and was late by many months.)
- The process for the second set of targets relied on the still relatively current report, but it also required substantial effort to identify the areas that had been inaccurately analyzed (understandable in an industry that is rapidly evolving in technologies, markets, and regulatory/legislative context). Specifically, the main areas requiring significant adjustment included lighting, behavioral programs, CHP, Price Response, plus issues of Net-to-Gross Factors and avoided costs. The C-Team led much of this investigation, with input from National Grid, Council members, and via a stakeholder process primarily centered at the DSM Collaborative. The process also benefited from the development of a Gas Opportunity Report (<http://www.riermc.ri.gov/documents/RI%20Gas%20Opportunity%20Report%202012.pdf>) completed in August, 2012 for approximately \$120,000. This report supported input into gas programs and measures for the 2013 and 2014 annual plans and was funded by the Council through its vote to put unallocated budget into escrow at the end of 2011 to support the research in 2012.

We can draw two conclusions from our planning and implementation experience to date:

- **LCP Works:** Rhode Island has built an impressive capacity to secure cost-effective savings that benefit consumers, the economy and the environment. Energy efficiency resources now provide over 20% of Rhode Island’s electric resource needs.
- **LCP provides real benefits to the Electric and Gas Systems.** National Grid indicates that efficiency investments have had a beneficial effect on the distribution system, they improve customer satisfaction, help manage high bills, and help shift markets and building practices toward more efficient baselines, while creating jobs in RI. An ongoing concern has been how to get the same level of efficiency services for delivered fuel customers as are available to electric and natural gas customers.

II. Planning for the Planning Process

For the 2018-20 targets, the initial potential study from 2010 still holds some value in validating a core baseline. The work underlying the 2015-17 targets will provide a base to continue refining these

primary areas of variability. Yet significant new work will be required to further refine the potential estimates due to ongoing changes in market conditions, core technology and codes/standards, plus anticipating scale and viability of developing services and technologies that may have impact in the medium term future.

In this effort the consultant team will supplement the base of available market assessment resources through analysis of potential measures and strategies and related savings levels that are currently being developed in the region and nationally. This will involve a combination of literature review (including review of the target-setting efforts in nearby jurisdictions), assessment of current program practice and learning, consideration of emerging opportunities, and analysis of unique opportunities in new markets and sub-markets.

While these activities will be a significant component of the 2016 proposed scope of work from the C-Team, we also recommend that work begin over the balance of 2015 to support an effective completion of this EERMC responsibility. The Saving Targets will need to be filed at the beginning of September, 2016. Since the Council will need to vote to approve these at the second week of August 2016 council meeting, it means a near final draft needs to be distributed to the Council the first week of August. Given that, most of the work on the Savings Targets will be completed in July, 2016. An early start would critically add six weeks to the six-plus available months of work in 2016 leading to the final draft.

III. Emerging Opportunities

If the theme for the last LCP planning cycle was to “consolidate and institutionalize” Rhode Island’s impressive efficiency resource acquisition capability, and the significant benefit it provides to the people of Rhode Island, it may be that the theme for the next cycle should be: **“full integration of LCP into Rhode Island’s energy system.”**

The basic insight on which Rhode Island LCP has operated is unchanged. There are now, and there continue to emerge, remarkable opportunities to increase the efficiency of our energy use. There continue to be barriers to adoption of new technologies and strategies that would yield significant benefits to customers and society, and these barriers warrant focused and strategic planning and investment to increase adoption and participation.

At the same time, there are a number of significant developments (regulatory, technological, and market-driven) that should inform the planning process for the 2018-20 LCP Plan:

LCP and SRP are being “stretched”: As we “go deep” in our understanding of how to provide energy services to consumers and society we begin to recognize five emerging dynamics that challenge and expand our assumptions about LCP. These emerging insights should inform the setting of targets and the framework of the Standards for the next LCP Procurement planning process.

- **Efficiency is one of a number of emerging customer-side resources. Increasingly it will need to be considered in relationship to the others.**
- **There are new uses for electricity that may increase benefits to customers and society while also increasing electric use.**
- **The timing of energy use, as well as its efficiency, has potentially significant value.**
- **Efficiency and other customer-side resources pose significant challenges to and opportunities for the evolution of our energy systems.**
- **Full and thoughtful evaluation of the costs and benefits of all resources is important to making wise choices.**

The collaborative process in Rhode Island has already begun to address these issues. A sub-committee of the Collaborative that calls itself the System Integration Rhode Island (SIRI) effort has been working to frame the discussion of these issues by stepping back and taking an overview of the utility system. It will be issuing a report on its work and some recommendations to accompany them.

The proceeding on rate design in which the EERMC has submitted testimony (Docket No. 4568) also begins to raise some of these issues, even though the docket itself is not designed to do so.

In a sense it is the success of LCP to date that has helped create new opportunities that require our attention, consistent with the EERMC's charge, and the underlying policy of the state of Rhode Island.

As the Consultant Team begins to consider the analytical work that will be required to set accurate and appropriate "targets" for the 20180-20 cycle we need to assess how these emerging themes should be addressed in our work. It may be that significant analytical work will be required to do this appropriately.

- Should we begin to quantify the potential benefits and risks of certain forms of strategic electrification and their impact on the system? Should we propose a program approach to such an effort, and metrics to measure and evaluate success?
- Should we begin to assess the potential value of using electricity at times that have higher value and lower cost to the system? This area of opportunity also relates directly to the emerging opportunities for including a wide array of distributed resources in Rhode Island's energy development strategy (distributed generation, storage, new grid planning and management approaches)
- Should we support a review of the Total Resource Cost Test to see that it provides a full and accurate basis for evaluating a wide array of energy choices and options?

(We have provided a further discussion of these issues as attachment A)

IV. Recommendations

- Start a process promptly to develop and begin executing a project management plan for this process:

EERMC CONSULTANT TEAM

- Have the C-Team develop a preliminary but thorough memo to the full EERMC on challenges and needs, including initial task list.
- In order to guide this effort, consider the creation of a subgroup similar to what was established for the Finance Expert selection, reporting to the Executive Committee on progress and for direction.
- Set aside funds to support any studies/analysis/reports from outside sources to help credibly identify and document savings potential in key sectors, programs, measures and/or upcoming innovation.
- Identify appropriate strategy to determine which, if any, non-traditional areas of energy efficiency resulting from innovation being investigated by SIRI, e.g. strategic electrification, should be considered in the savings targets

Attachment A:

To: Rhode Island EERMC

From: Scudder Parker

Date: Nov 12, 2015

Subject: New Energy Opportunities: Strategic Electrification, Demand Response, and Distributed Resource Integration.

The Consultant Team provides this Memorandum to help focus the attention of the EERMC on what it believes to be an increasingly important set of dynamics in the evolving energy system. The upcoming development of the 2018-20 Savings Targets, and the 2018-20 Least Cost Procurement Plan and System Reliability Plan (SRP) represent two key decision processes that would be appropriately informed by these considerations. We believe they also connect to and inform (and should be further informed by) the ongoing System Integration Rhode Island (SIRI) initiative.

The energy system is changing. We need to keep working to understand these changes in order to plan for an energy future that is able to meet customers' needs while adapting to the speed of technology and the availability of new information. With the efforts already under way and important infrastructure in place, Rhode Island is well positioned to look ahead and be pro-active in planning for the changes that are coming. We believe that Rhode Island's Least Cost Procurement mandate provides an excellent context for considering these issues.

It is important to think about the emerging new energy opportunities because they force us to expand our thinking beyond the traditional (valuable but constrained) focus on incremental efficiency of specific technologies.

There are three dynamics that contribute to the New Energy Opportunities (NEO): They are:

1. **Strategic Electrification:** The emergence of new electric technologies that open the door to significant electrification in sectors of the economy that have been dominated by combustion of fossil fuels.
2. **Distributed Resources:** The rapid development and deployment of a wide range of technologies that are becoming increasingly important to meeting customer energy needs. We refer to this set of technologies and capabilities collectively as Distributed Resources. It includes energy efficiency, which has to date been the primary focus of the EERMC, distributed generation (including CHP¹ and renewables), energy storage, load and demand management capabilities.

¹ In Rhode Island, CHP is treated as an efficiency resource, because when well-designed it can significantly increase total system efficiency compared to simple combustion generation.

3. **A New Vision of the Electric Distribution System:** There is an emerging vision of the distribution (and to some extent the transmission) system as more than simply a “delivery” system for energy produced at large central station generation facilities, but as a system re-designed to enable and support both strategic electrification and distributed resource development through system design, operation, and active load management.

We believe this NEO has implications for current National Grid Program design, and implementation and for least cost energy efforts more generally. We believe it also suggests possible dramatic shifts in energy markets in the next few years.² It poses significant challenges, but also offers very positive opportunities.

The context of the larger NEO is essential to understanding the opportunity represented by strategic electrification.

Strategic Electrification:

Description: There are several emerging technologies that have significant potential to provide benefits to customers and the economy of Rhode Island that do not simply and exclusively fit the traditional tests that have been used to identify measures and design programs under Rhode Island’s current “Least Cost Procurement” (LCP) mandate. These include measures that may provide significant savings not just through increased efficiency of electric use, but also through effective substitution of electric use for applications that have traditionally been dominated by fossil fuels.

These measures include, but are not limited to:

1. New and rapidly improving heat pump technologies. These technologies move heat and cold from one place to another, often with very high efficiency. They include but are definitely not limited to:
 - a. Heat pump technologies for space heating and cooling. While air-to-air heat pumps have been around for years, they are now rapidly increasing in efficiency and cost-effectiveness. They can provide improvements over traditional air conditioning technologies, but they also can provide cost-effective heating for an increasing portion of the heating season. While initial attention has been focused on units in residential and small commercial settings, new improvements suggest this technology may be beneficial to larger and more complex facilities as well. Ground-or water-source heat pumps continue to improve and may be increasingly beneficial in larger facilities or in applications with hydronic distribution.
 - b. Heat pump water heating in the residential sector has become an established technology, currently incentivized in National Grid programs. It provides hot

² Please note Developments in one Utility Service Territory in Maine:
<http://www.mainebiz.biz/article/20150615/CURRENTEDITION/306119994/1088>

water at an estimated efficiency improvement of 2.5 times the efficiency of traditional electric resistance hot water heating, and it competes with fossil fuel heating in many settings.

- c. Heat pump clothes dryers are improving in efficiency and performance, and certainly can compete with electric resistance clothes drying, and with gas applications.
2. Electric vehicles. EVs are a small part of the current transportation market, but they are increasing in viability as battery design and vehicle range improve. Electric vehicles could contribute significantly to cost savings for consumers, to reductions in total emissions, and to other innovations in the transportation sector. Electric vehicles also could provide a new and much-desired value to the electric sector--the ability to store electricity at low cost times and deliver electricity at times of greater need.

Implications: None of these technologies is completely new to the discussion about Rhode Island's energy future. Some of them are already receiving support in specific applications from National Grid programs. But in combination they could signal an important transition in the way we think about and plan for least cost procurement in Rhode Island.

Distributed Resources:

“Distributed resources” is a term of art for a number of new technologies and strategies that help meet customer energy needs; are generally located in, at, or near customer facilities; and are likely to be owned by customers. These resources stand in contrast to “central station” resources that generate power on a large scale, are generally distant from customers, and are owned by utilities or independent generators. Distributed resources include efficiency in end use technologies (the primary focus of EERMC attention to date) but they also include distributed generation (including renewable generation and CHP at the building or community scale) storage, and load and demand management. By 2017 energy efficiency will meet almost 23% of Rhode Island's electric energy needs. Solar generation is increasing rapidly and is decreasing in cost. Energy storage and demand response are emerging as powerful new ways to accommodate more intermittent generation and provide better timing of energy use and demand.

Collectively these technologies can meet an increasing portion of customer demand, often at lower cost (clearly the case with efficiency), and can provide both benefits to the overall electric system, and improvements in both environmental profile and economic impact. They also present challenges and potentially impose new costs to accommodate large scale adoption, or to facilitate capability-building that will permit their deployment at scale.

As Rhode Island families and businesses continue to benefit from the state's emergence as a national leader in energy efficiency implementation the potential for deeper efficiency across all forms of energy, the prospect of new forms of generation, and new strategies to

manage their load and reduce costs are increasingly seen as attractive opportunities for them. The marketplace is devising technologies and offerings at an accelerating rate. Rhode Island's LCP mandate, and the programs offered by National Grid have been critically important drivers of this change.

This emergence of distributed resource strategies begins to blend with the opportunities offered by "strategic electrification" described above. It is (for instance) now possible to convert to heat pumps, make your house very efficient, and generate much of your own electricity from solar panels. Customers are already connecting the ability to generate their own electricity with the opportunity to electrify new components of their energy usage. Rhode Island's policy leadership needs to recognize this dynamic as an opportunity.

In this rapidly changing environment new opportunities for the electric grid to provide value to customers and society begin to emerge.

A New Vision for the Electric Distribution System:

There is an explosion of discussion about what the electric utility will look like in the future. It is not the purpose of this memorandum to discuss all these options or review these debates. Much of that work is being done in Rhode Island already through SIRI. But at the heart of all the debate and discussion is the opportunity to have the electric grid emerge as a facilitator, broker, and supporter of the emergence of a new, customer- and market- empowering, cleaner, and much more dynamic energy system.

Rhode Island's work with System Reliability in Tiverton/Little Compton has already begun to consider how energy efficiency and load management can be integrated with focused solar installation to improve reliability and lower costs. Increasingly, discussions about LCP begin to identify opportunities for a grid that anticipates, stimulates, and incorporates distributed resource investment and active demand response in a manner that increases reliability, provides real savings, supports innovation, and improves both the environment and the economy. As traditional efficiency strategies interact with utility investment through the utility Infrastructure, System and Reliability (ISR) budget, opportunities for further evolution of the opportunities for least cost provision of total energy service begin to emerge.

Questions about Strategic Electrification

Why are these technologies of particular interest? And why do they merit special consideration by the EERMC?

Because they push us to consider whether our definition of LCP should apply not simply to increased efficiency **within** a fuel type (electricity, natural gas, delivered fossil fuels) but also to substitution of one fuel type for another. It is not clear for instance that National Grid can,

under the currently approved Standards, actively promote electric measures that displace fossil fuel use.

It is interesting to note however, that with regard to natural gas, there is historical precedent that allows for active promotion of natural gas over electric resistance heat and delivered fossil fuels. As worded, the language of that memorandum could logically apply to electric substitution for other fuels, but this option has not been actively considered and discussed.

Opportunities for Demand Response and Load Control

The only active implementation of Demand Response in Rhode Island by National Grid is the Demand Response component of the Tiverton/Little Compton System Reliability Plan effort. While there may be large customers in Rhode Island who participate in regional (ISO) system peak demand response efforts, those activities are not coordinated or promoted by National Grid.

There are potential benefits to having the capability to control customer usage in real time to regulate constraints on the distribution, to improve load shape and system utilization, to reduce supply costs, and to support and respond more comprehensively to system peaks that drive both distribution and commodity costs.

While Rhode Island Least Cost Procurement legislation clearly anticipates that managing the time of energy use could be a part of Least Cost Procurement, this activity has not been fully integrated into Rhode Island LCP program design and implementation.

Memorandum

To: RI Energy Efficiency & Resource Management Council
From: Mike Guerard & Scudder Parker on behalf of EERMC Consultant Team
Date: December 8, 2015
Subject: 2016 Proposed Scope of Work for EERMC C-Team

Proposed 2016 Scope of Work

I. Background

It has been nearly a decade since Rhode Island's Energy Efficiency and Resources Management Council Act of 2006 (RIGL §42-140.1-6) was passed as companion legislation to Rhode Island's 2006 Least Cost Procurement and System Reliability Act (RIGL §39-1-27.7). This legislation created the framework for Least Cost Procurement and System Reliability planning and implementation in Rhode Island. Subsequent legislation has built on the framework created by these laws and given further guidance and direction to the Energy Efficiency and Resource Management Council (EERMC). Almost a decade after the passage of this legislation, the EERMC has become an important part of the planning, public input, implementation, oversight, and coordination functions that have made Least Cost Procurement (LCP) a vital part of the Rhode Island energy system, and an important part of its economy.

The Consultant Team (C-Team) has worked for the EERMC since 2008, and is pleased to provide this Scope of Work (SOW) for its services to the EERMC in 2016. This SOW represents a significant departure from the structure of previous documents over the last few years. In this version, we seek to tie proposed services to the Council's mission directly, linking activities to the legislated Council responsibilities, encompassing its "Powers and Duties" and "Additional general powers" as well as EERMC roles and responsibilities in other sections of legislation related to LCP.

In this document, we quote from the EERMC authorizing legislation directly and link our proposed work to that legislative guidance. The first two sections of the legislation are the Legislative Findings, and the statement of the Purposes for Establishment of the Council. These documents reflect the history of utility evolution in the early years of the century that include the "restructuring" of the utility system and the uncertainties and cost and price fluctuations associated with it. The legislation recognized energy efficiency and energy conservation as strategies that could provide enormous benefits and increased control of energy costs. It realized that a new and focused effort to build a new structure that could acquire "efficiency resources" was required, that it must include sustained thoughtful input from stakeholders, provide thoughtful oversight and evaluation, and continue to educate consumers and enhance their recognition of the benefits of this new approach.

§ 42-140.1-2 Legislative findings. – *It is hereby found and declared:*

(a) Rhode Island has experienced an energy cost crisis during 2005 and 2006 and faces the prospect of fluctuating and increasing energy prices in the future.

(b) Energy conservation and energy efficiency have enormous, untapped potential for controlling energy costs and mitigating the effects of energy crisis for Rhode Island residents and the Rhode Island economy.

(c) Rhode Island has lacked an integrated, comprehensive, public, stakeholder-driven organizational structure to secure for Rhode Island and its people the full benefits of energy efficiency, energy conservation, and energy resources management.

§ 42-140.1-3 Establishment of council – Purposes. – *(a) There is hereby authorized, created and established a council to be known as "The Rhode Island Energy Efficiency and Resources Management Council" with the powers and duties set forth in this chapter.*

(b) The purposes of this council are to:

(1) Evaluate and make recommendations, including, but not limited to, plans and programs, with regard to the optimization of energy efficiency, energy conservation, energy resource development; and the development of a plan for least-cost procurement for Rhode Island; and

(2) Provide consistent, comprehensive, informed and publicly accountable stake-holder involvement in energy efficiency, energy conservation, and energy resource management; and

(3) Monitor and evaluate the effectiveness of programs to achieve energy efficiency, energy conservation, and diversification of energy resources; and

(4) Promote public understanding of energy issues and of ways in which energy efficiency, energy conservation, and energy resource diversification and management can be effectuated.

II. Proposed activities to support EERMC obligations

The legislation outlines the Powers and Duties of the EERMC and then enumerates a list of Additional General Powers that describe the types of activities it is authorized to undertake. Many of these duties are given specificity in other sections of the law, and some have been added in subsequent legislation.

The structure for each element in this proposed SOW is to list the discrete legislated obligation of the Council, followed by description of the activities and key deliverables proposed by the C-Team, in the following format:

Referenced legislated language...

C-Team task to support Council obligation

- **Description:** (what will be done to fulfill task)
- **Key Deliverables:** (e.g. memo, report, or services delivered)

Table 1 summarizes these elements, along with estimated hours for each deliverable. After the table, more detail is provided describing each task and deliverable.

		Hours
<i>(a) Develop and recommend for implementation plans, programs and standards for energy conservation, energy efficiency, and diversification of energy resources.</i>		
1	Develop Proposed 2018-2020 Savings Targets and Standards	692
2	Support Development and Review of 2017 EEPP and SRP	524
<i>(b) Monitor and evaluate plans and programs for energy conservation, energy efficiency and diversification of energy resources; in order to effectuate such evaluations the council may request audits, including performance audits, of any program for energy conservation, energy efficiency or diversification of energy resources</i>		
3	Implementation oversight of 2016 EEPP and SRP	350
4	EM&V Oversight	250
5	Identification and support for program modification and enhancements	448
<i>(c) Submit to the joint committee on energy an annual report on or before April 15 of each year, commencing in 2008, regarding the activities of the council, its assessment of energy issues, the status of system reliability, energy efficiency and conservation procurement and its recommendations regarding any improvements which might be necessary or desirable.</i>		
6	Annual Report to GA	80
<i>(d) Participate in proceedings of the public utilities commission that pertain to the purposes of the council, including but not limited to proceedings regarding least-cost procurement</i>		
7	Technical Sessions and other PUC-related events	168
<i>(e) Advise electric distribution companies with regard to implementation of least cost procurement.</i>		
8	Support policy and strategic considerations regarding LCP	200
<i>(f) Advise the commission of energy resources, and recommend policies, standards, strategies, plans, programs, and procedures with regard to functions of the office of energy resources</i>		
9	Coordination with, and support of, OER Commissioner and staff	308
<i>(g) Consider such other matters as it may deem appropriate to the fulfillment of its purposes, and may advise the governor, the general assembly, other parties, and the public with regard to matters pertaining to its purposes and duties, which advice may include findings and recommendations.</i>		
10	Address Key Policy Issues	108
<i>§ 42-140.1-6 Additional general powers. – In order to effectuate its powers and duties the council has the following powers: (a) To make any studies of conditions, activities, or problems related to the state's energy needs, usage, and supplies to carry out its responsibilities.</i>		
11	Monitor general energy issues	64
<i>(b) To adopt amend bylaws, to establish committees, to elect and or appoint officers and agents, and to engage consultants and professional services as necessary and appropriate to fulfill its purposes.</i>		
12	Oversight of professional services funded by Council	104
<i>(d) To work with the appropriate federal, regional, and state agencies, and private entities.</i>		
13	Inter-agency coordination and stakeholder engagement	418
<i>§ 39-1-27.7 System reliability and least-cost procurement 2(c)(6) (iv) The energy efficiency and resource management council shall conduct at least one public review meeting annually, to discuss and review the combined heat and power program, with at least seven (7) business days' notice, prior to the electric and gas distribution utility submitting the plan to the commission.</i>		
14	Hold Public Review Meeting on CHP	28
Ongoing support for Council activities and interests		
15	General support of Council meetings, and council member-specific issues	284
CORE SUBTOTAL		4026
Travel hours		
	Monthly Council Meetings	96
	Hearings, Stakeholder Mtgs	91
Total Hours		4213

§ 42-140.1-5 Powers and duties. – The council shall have the power to:

(a) Develop and recommend for implementation plans, programs and standards for energy conservation, energy efficiency, and diversification of energy resources.

1. Develop Proposed 2018-2020 Savings Targets¹ and Update Energy Efficiency Standards²

- **Description:** The first step in the process of determining implementation plans and programs is the establishment of cost-effective, achievable savings targets. The EERMC is directed to provide proposed targets for gas and electric savings triennially to the PUC, which will be due in September 2016 to inform 2018-2020 planning. In order to establish effective savings targets, significant research, analysis and stakeholder engagement will be required leading to submittal, followed by PUC processes to review the proposed targets. Additionally, this period of time is when the Standards for energy efficiency and system reliability are updated, if necessary. The C-Team proposes to play a significant role in the process leading to the Council’s submittal of the targets and any changes to the Standards.
- **Key Deliverables:** The establishment and execution of a project management plan that includes monthly reports to the Council and opportunities for Council input; research and analysis including national and regional comparisons; recommendations for independent research if warranted, and support of process to secure additional resources; submittal of first draft savings targets by June 2016; coordination and engagement with stakeholders; issuance of a final report to the Council and support in filing savings targets with the PUC; and participation in follow-up processes with the PUC during review and ruling on targets.

2. Support Development and Review of 2017 Annual Energy Efficiency Program Plan (EEPP) and System Reliability Plan (SRP)

- **Description:** The development of the 2017 EEPP and SRP is anticipated to be a significant undertaking over the course of much of the year. The process begins generally in the second quarter of the year through engagement at the Collaborative and through direct discussions with National Grid to identify general directions for portfolio consideration and specific areas for program enhancement. Concurrent to this and as early in the year as possible, a process to review and consider modifications to the Technical Reference Library (TRL) supports cost and savings consideration for the plans. The process leads to a series of drafts of the plans requiring review and input, analysis of benefit/cost models, stakeholder coordination on key issues, and filing of a Settlement of the Parties on the plan with the PUC by October 15. The EERMC is required to submit a Cost-Effectiveness Report (C-E Report) within two weeks of the filing of the plans.
- **Key Deliverables:** Participation in Collaborative meetings and associated stakeholder engagement; review and analysis of plan drafts including TRL and benefit/cost models; periodic reporting to the Council and engagement with individual Council members on constituency-specific topics; development and submittal of the C-E Report to the Council for approval, followed by subsequent support for submittal of the C-E Report to PUC.

¹ See also § 39-1-27.7.1 Revenue decoupling

² See also § 39-1-27.7 System reliability and least-cost procurement.

(b) Monitor and evaluate plans and programs for energy conservation, energy efficiency and diversification of energy resources; in order to effectuate such evaluations the council may request audits, including performance audits, of any program for energy conservation, energy efficiency or diversification of energy resources, that is established pursuant to Rhode Island law or is administered by a state agency, a request for an audit of any program operative pursuant to an order or decision of the public utilities commission shall be made to the commission; the council may make findings and recommendations with regard to changes, modification or continuation of any programs which it has authority to monitor or evaluate.

3. Provide Implementation Oversight of 2016 EEPP and SRP

- **Narrative of activities:** In addition to reviewing monthly dashboards and quarterly reports issued by National Grid, the C-Team has developed a standardized process to conduct oversight of the EEPP and SRP's implementation that affords more a granular, real-time understanding of each program's progress to goal. Monthly meetings with C-Team sector strategy experts and National Grid's residential and C&I sector strategy groups provide an effective forum to cover progress-to-date in each program, strategic issues related to appropriate program enhancements, as well as to support future planning of program portfolios. As part of the process, sets of key data are identified and provided monthly by National Grid to enable the C-Team and the Council to better understand implementation progress.
- **Key Deliverables:** Monthly Sector Strategy meetings and associated data review; research and analysis on potential program modifications; as-needed reports on implementation issues at Council meetings and/or with individual Council members relating to their specific constituencies.

4. Provide Evaluation, Measurement, and Verification Oversight

- **Description:** As part of the 2017 EEPP development, the C-Team conducts a review of the TRL and the associated benefit/cost model, which provide the savings documentation for EE measures. Annual changes, updates, additions and deletions of measures are reviewed to ensure the overall savings assumptions are verifiable. Evaluations that are conducted in Rhode Island and throughout New England are reviewed and used to support appropriate application of results to programs.
- **Key Deliverables:** Review and provide input on completed and ongoing evaluation activities in Rhode Island; review and provide input on TRL; provide ongoing feedback to National Grid regarding new measures and savings opportunities.

5. Identify and Support Program Modifications and Enhancements

- **Description:** A variety of activities have been undertaken directly and indirectly related to monthly sector strategy meetings. Direct activities include follow-up research and updates on specific programs and measures identified in meetings and then provided to National Grid, and review of Requests for Proposals for vendors to deliver programs. Indirect activities include participation in working groups addressing topics that potentially support new cost-effective program concepts and additions. Current topics with working groups anticipated to continue in 2016 are Building Asset Labeling for residential and C&I; Zero Energy Buildings for new and existing residential and C&I; Multifamily Task force; Codes & Standards Initiative Evaluation Group; and Income Eligible Best Practices Working group. The general objective of these activities is to integrate new program approaches developed through the working groups to allow for more savings to be gained and/or those savings gained more cost-efficiently. C-Team representation on behalf of the Council fulfills a unique opportunity to facilitate linkage and leveraging of these efforts.

- **Key Deliverables:** Delivery of topic-specific information on program issues for National Grid, with updates to the Council; participation in working groups to support positive outcomes tied to optimizing LCP objectives; regular reports to the Council.

(c) Submit to the joint committee on energy an annual report on or before April 15 of each year, commencing in 2008, regarding the activities of the council, its assessment of energy issues, the status of system reliability, energy efficiency and conservation procurement and its recommendations regarding any improvements which might be necessary or desirable.

6. Support Issuance of Annual Report to General Assembly

- **Description:** Support and participate in meetings with Annual Report subgroup (OER, National Grid) to develop and submit the Annual Report by April 15, 2016. Write sections of the report, as assigned, and review and edit document drafts and final version. Provide updates to the Council and respond to direction on desired content, especially relating to the “Policy Recommendations” section.
- **Key Deliverables:** Participation in group activities; services related to writing, reviewing and editing document; updates on progress to the Council.³

(d) Participate in proceedings of the public utilities commission that pertain to the purposes of the council, including but not limited to proceedings regarding least-cost procurement as provided for in § 39-1-27.7.⁴

7. Participate in Technical Sessions and Other PUC-related Events

- **Description:** At a minimum, it is anticipated that two Council-related events will require participation in technical sessions of the PUC – the submittal of the 2018-2020 Savings Targets on September 1, 2016 and the submittal of the 2017 EEPP/SRP on October 15, 2016. In addition to the preparation for, and participation in, the technical sessions, it is likely there will be related information requests from the PUC requiring formal response and/or review of responses from other parties. In addition to the technical sessions, a related open meeting of the PUC is held to announce ruling on dockets. For purposes of developing this proposed SOW, we assume at least one other event may require Council representation. For example, it is likely that there will be continued involvement of the EERMC in Docket No. 4568, the current Rate Design case, in the form of continued participation and possible rebuttal testimony in 2016. An example of a similar kind of proceeding was the street lighting tariff in 2014.
- **Key Deliverables:** Preparation for and attendance at technical sessions; drafting and defense of testimony (if specifically requested to do so by the Council); participation in associated open meetings;

³ This is an area of activity where the Consultant Team used to take significant leadership responsibility, and that work has now been assumed by OER staff, with strong continuing support from EERMC members and National Grid.

⁴ Related legislation from the PUC section: § 39-1-27.9 Office of energy resources participation. – In any commission inquiry into, or examination of matters that relate to or could potentially impact any programs, functions or duties of the office of energy resources and/or the energy efficiency and resources management council, including, but not limited to, those programs, functions and duties pursuant to this chapter and chapters 42-140, 42-140.1, 42-140.2, and 42-141, the office of energy resources and the energy resources council shall be deemed, upon the formal request of the office or the council as appropriate, to be an interested party for all purposes, and as such, shall receive all notices and may file complaints, institute proceedings, participate as a party in administrative hearings.

responses to PUC information requests and review of responses to information requests; updates to the Council; coordination of activities with EERMC Counsel.

(e) Advise electric distribution companies with regard to implementation of least cost procurement.

8. Support Policy and Strategic Considerations Regarding Least Cost Procurement

- **Description:** The C-Team has participated in a number of important efforts that fall into this category. The work on System Integration Rhode Island (SIRI) is an example of such an effort. Other efforts have focused on delivered fuels, an assessment of the potential benefits, risks, and effects of heat pumps, an exploration of the potential benefits of adopting new appliance standards, and work on strategies to promote energy benchmarking are other examples of things done to support LCP.
- **Key Deliverables:** Participation in relevant working groups; delivery of memos/reports to the Council as well as Council presentations, as appropriate.

(f) Advise the commission of energy resources, and recommend policies, standards, strategies, plans, programs, and procedures with regard to functions of the office of energy resources including but not limited to plans, strategies, and programs to:

- (1) implement cost-effective energy conservation and energy efficiency programs;*
- (2) promote the development of eligible renewable energy resources for Rhode Island;*
- (3) foster distributed generation of electricity and demand response;*
- (4) assist low-income households in meeting energy needs;*
- (5) coordinate the use of funds, resources, and programs from diverse resources to achieve the purposes of the office.*

9. Coordinate with and Advise the Office of Energy Resources (OER)

- **Narrative of activities:** The Council plays a key advisory role for the OER in the areas listed above. Over the last few years, the C-Team has been directed to support and mentor OER Commissioner and staff. However, with the growth in scale and skills of OER, efforts can now be more focused on coordination and partnering on issues relating to least cost procurement that help fulfill Council obligations. This includes supporting the development of strategies and tactics to align governmental agency efforts on energy issues, addressing key stakeholder interests and increasing their understanding of and access to existing programs, and supporting and informing efforts and initiatives directed at legislative and executive government levels. Also, the Council is tasked to advise the OER of Regional Greenhouse Gas Initiative (RGGI) investments. Based on Council recommendations to OER, the C-Team supports planning and implementation of RGGI activities that support LCP.
- **Key Deliverables:** Regular updates on OER activities to the Council, as well as receiving and acting on Council direction on advisory positions for future OER activities; regular check-ins with OER Commissioner and key staff on relevant energy issues; support for RGGI planning and implementation based on Council advisement to OER.

(g) Consider such other matters as it may deem appropriate to the fulfillment of its purposes, and may advise the governor, the general assembly, other parties, and the public with regard to matters pertaining to its purposes and duties, which advice may include findings and recommendations.

10. Address Key Policy Issues

- **Narrative of activities:** The Council identifies key areas requiring policy consideration, including specific items included in the Annual Report to the General Assembly in the “Policy Recommendation” section. The C-Team (along with OER and other individual EERMC members) helps introduce these topics, explore how they might affect the future of the energy and utility systems in Rhode Island, and engages appropriate partners in Rhode Island and elsewhere when appropriate to bring new perspectives and insights to the Council. The policy topics typically of interest are those that may influence future design of LCP and System Reliability procurement, many of which are embedded in the SIRI effort and the Rate Design Docket. These topics include (but are certainly not limited to): demand management and load control; the emergence of electric vehicles and energy storage; various discussions about regional issues, including infrastructure needs and costs; renewable energy development and its integration into the grid; rate design and cost recovery; ancillary services; utility incentives and performance regulation.
- **Key Deliverables:** Participation in the regular sharing and exchange of “digestible” information to the EERMC, OER and individual members; facilitation of Council discussions on policy topics; issuance of Memoranda to introduce topics; participation in briefings of RI regulators and other thought leaders as requested.

§ 42-140.1-6 Additional general powers. – In order to effectuate its powers and duties the council has the following powers:

(a) To make any studies of conditions, activities, or problems related to the state's energy needs, usage, and supplies to carry out its responsibilities.

11. Monitor General Energy Issues

- **Narrative of activities:** This activity will often relate to the work described in #10 above, but is likely to be more focused on specific policy options and proposals. State and regional issues relating to energy needs, usage, and supply are evolving quickly. It is part of the C-Team’s role to stay abreast of these issues and support the EERMC in learning and, where appropriate, in providing input.
- **Key Deliverables:** Periodic, as-needed, presentations to the Council; attendance at meetings on behalf of the EERMC (and with EERMC member participation) as appropriate; development of specific recommendations as requested by the Council, e.g., the memorandum about the approach the EERMC should take in its participation in the development of the RIIB.

(b) To adopt amend bylaws, to establish committees, to elect and or appoint officers and agents, and to engage consultants and professional services as necessary and appropriate to fulfill its purposes.

12. Provide Oversight of Professional Services Funded by Council

- **Narrative:** The Council is currently funding professional services regarding financing issues, which will carry into mid-2016. Additionally, professional services to support research and analysis of 2018-2020 Savings Targets may be a consideration for the Council in the 2016 budget. Additional budget considerations for 2016 may result in the identification of other areas requiring vendor support.
- **Key Deliverables:** Continued provision of project management oversight of finance expert Dunsky Energy Consulting; facilitation of regular reporting to solicit Council direction on desired activities and outcomes; support for the solicitation, selection and project management oversight of other vendors, as needed.

(c) To accept and administer grants from the federal government and from other sources, public or private, for the carrying out of any of its functions, which loans or grants shall not be expended for other than the purposes for which provided.

N/A

(d) To work with the appropriate federal, regional, and state agencies, and private entities.

13. Conduct Inter-agency Coordination and Stakeholder Engagement

- **Description:** An important and unique function the Council provides is to support holistic approaches in support of LCP. Multiple governmental and quasi-governmental agencies and private entities have roles and activities that intersect to varying degrees with LCP. Examples of C-Team efforts to support Council fulfillment of this objective have included holding meetings (many coordinated with OER) with Department of Human Services, Housing and Community Development, Rhode Island Housing, Rhode Island Infrastructure Bank, Office of the General Treasurer, City of Providence, Division of Public Utilities, League of Cities and Towns, Grow Smart RI, Alliance for Healthy Homes, Emerald Cities, Oil Heat Institute, and individual stakeholders. It is anticipated that conversations and efforts will be ongoing with most if not all of these groups going forward to continue refining and enhancing cooperative efforts related to LCP.
- **Key Deliverables:** Reports to the Council on activities; attendance at and support of meetings; continued identification of additional opportunities to close gaps and facilitate key connections.

(e) To apply for, accept and expend allocations, grants and bequests of funds, for the purpose of carrying out the lawful responsibilities of the council.

N/A

Related legislation relating to EERMC obligations:

§ 39-1-27.7 System reliability and least-cost procurement 2(c)(6) (iv) The energy efficiency and resource management council shall conduct at least one public review meeting annually, to discuss and review the combined heat and power program, with at least seven (7) business days' notice, prior to the electric and gas distribution utility submitting the plan to the commission.

14. Hold Public Review Meeting on Combined Heat & Power (CHP)

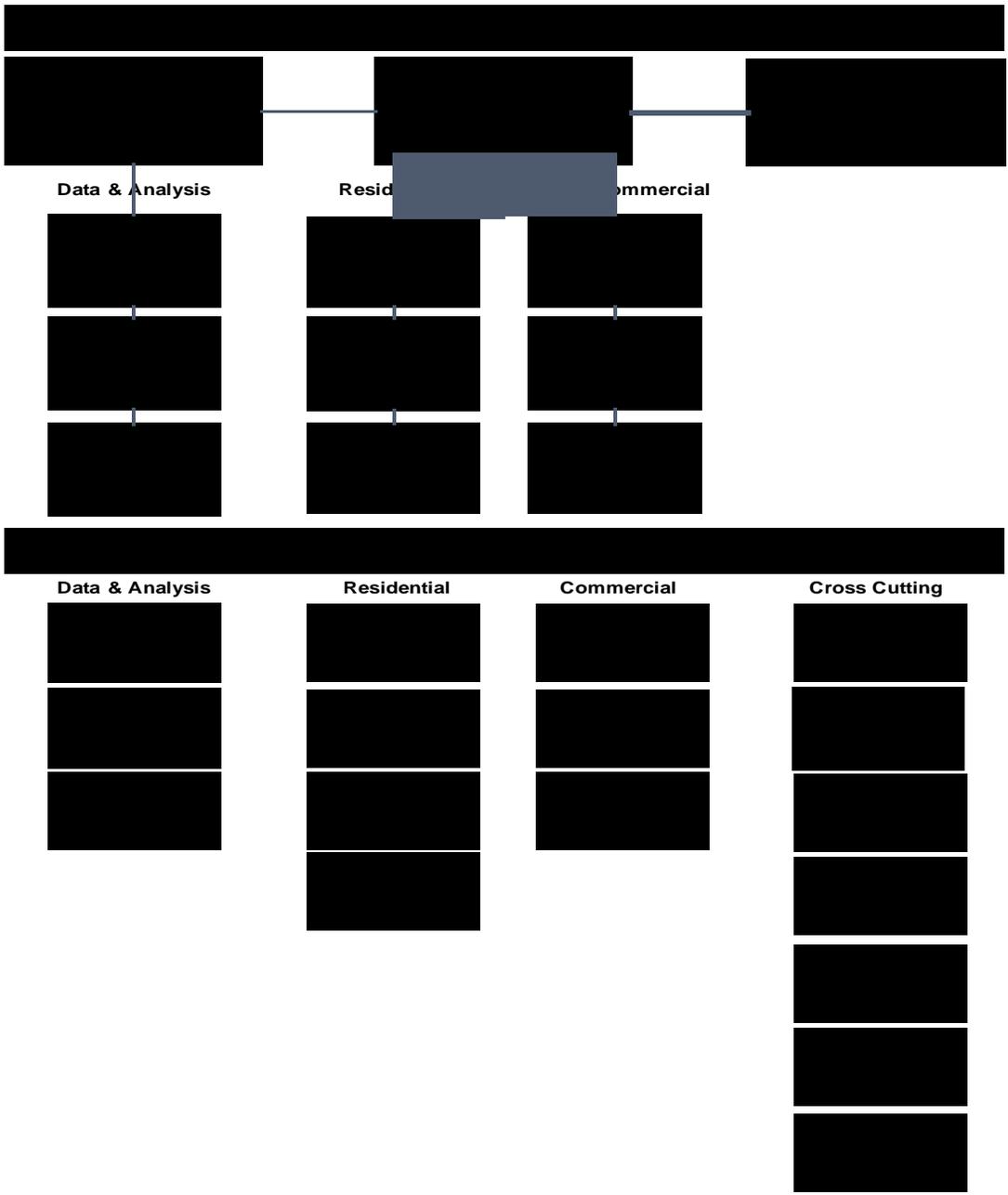
- **Description:** An annual public review meeting is required to be facilitated by the EERMC. The OER and National Grid are primary participants in the review of current CHP programs and results, and related discussion regarding public input on potential enhancements.
- **Key Deliverables:** Support for the meeting with OER and National Grid with Council input; attendance at meeting and provision of report to the Council on results; support for any associated follow-up and stakeholder communication.

Ongoing support for Council activities and interests

15. Provide General Support of Council and ExComm Meetings and Council Member-specific Issues

- **Description:** A core set of ongoing tasks has been undertaken by the C-Team to facilitate Council communications and operations. This includes attendances at Council-related meetings and support of meeting agenda setting, coordination of stakeholder presentations, written monthly C-Team activity reports for Council member meeting packets, responses to Council member queries, and coordination with EERMC Counsel.
- **Key Deliverables:** Assistance related to effective Council and ExComm meetings, including drafting agendas, reports, and updates as well as timely and effective responses to individual Council member queries.

III. C-Team composition and organizational chart



IV. Proposed budget

The proposed hours are in line with 2013-2015 levels. The final budget amount is anticipated to be less than the \$782,000 estimated for the C-Team in the draft 2016 Budget to be reviewed at the December 10 Council meeting, with the final amount to be determined after negotiations with the EERMCM Executive Committee on hourly billing rates.

2016 EERMC Planning Budget
as of 11/9/15

<u>Income</u>	
2016 EE Plan - Electric	\$ 793,100
2016 EE Plan - Gas	\$ 233,300
<i>Total</i>	<i>\$ 1,026,400</i>

<u>Client Fund Balance as of 1/1/16</u>	
Expo 2015	\$ 50,000
Finance Study	\$ 70,000
Unallocated Carry-over	\$ 138,000
<i>Total</i>	<i>\$ 258,000</i>

* will be expended in 2016

* will be expended in 2016

<u>Projected Allocations</u>	
Core Consultant Services	\$ 782,000
Legal Counsel	\$ 40,000
Communications	\$ 15,000
Counsel Travel	\$ 500
Expo 2017	\$ 50,000
<i>Total</i>	<i>\$ 887,500</i>

<u>Budget Summary</u>	
Income	\$ 1,026,400
Client Fund (unallocated)	\$ 138,000
Projected Allocations	\$ 887,500
Net Income	\$ 276,900



Systems Integration Rhode Island

EERMC Meeting
Thursday, December 10, 2015
Department of Administration

***“Leading Rhode Island to a secure,
cost-effective, and sustainable energy future.”***

The Systems Integration Context

- **RI's energy system is becoming more complex as consumers adopt distributed energy resources**
 - Deep investments in energy efficiency, renewable energy, heat pumps, electric vehicles, and more
- **The changing system represents opportunities and challenges for the electric distribution system**
 - Two-way power flow, “non-wires solutions”, questions regarding planning, rate structures, and benefits/costs of new investments

Background & Origin of SIRI

- **The Rhode Island State Energy Plan**
 - Recommendations regarding energy efficiency, distributed generation, strategic electrification of heating and transportation
 - *Strategy 13: Modernize the Grid* – “This strategy recommends convening a working group to develop recommendations for electric grid, rate, and regulatory modernization in Rhode Island”
- **3-YR Planning Process for the 2015-2017 Energy Efficiency Procurement Plan**
 - “Systems Integration” subcommittee of the EE Collaborative
 - “Recognizing efficiency in the context of a broader definition of customer-side resources and options; and second, consideration of the actual and potential cumulative impacts of deploying such resources aggressively on the total regulated energy, and total energy systems”
 - SIRI representation from OER, EERMC, DG Board, and National Grid

SIRI Working Group

- **Facilitation: Rich Sedano of the Regulatory Assistance Project (RAP)**
- **Rhode Island Office of Energy Resources (OER)**
 - Commissioner Marion S. Gold, Ph.D.
 - Danny Musher
- **Rhode Island Energy Efficiency and Resource Management Council (EERMC)**
 - Abigail Anthony
 - Leslie Malone*
 - Scudder Parker
 - Mike Guerard
- **Rhode Island Distributed Generation Board (DG Board)**
 - Sue AnderBois
 - Charity Pennock
- **National Grid**
 - Jeremy Newberger
 - Courtney Lane

“The purpose of the SIRI group was to take a first step at **mapping out key issues related to the future of Rhode Island’s electric grid and offer early stage recommendations** for addressing opportunities, filling gaps, and gaining efficiencies in existing state processes”

SIRI Tasks

- **The SIRI group undertook the following tasks:**
 - **Define what “systems integration” means** for Rhode Island within the context of the newly-approved State Energy Plan and ongoing energy/grid planning, procurement, and investment processes;
 - **Inventory and map** out the applicable existing energy policy/regulatory processes in Rhode Island and their interaction;
 - **Propose preliminary approaches** and recommendations for addressing key issues; and
 - **Establish a work plan**, based on the recommendations, that defines next steps and milestones related to systems integration.

Defining “Systems Integration”

- **“Systems Integration” refers to the intentional and thoughtful coordination of existing systems (i.e. processes and stakeholders), so as to harmonize them with the ability to achieve stated goals**
- **“The idea of “systems integration” recognizes that Rhode Island already has several focused, strong, and effective energy processes that can be built upon to support the achievement of future objectives for the electric grid”**

Defining “Systems Integration”

- While there is currently some coordination among processes and stakeholders, SIRI asks the following questions to examine potential improvements:
 - What steps can Rhode Island take today to put us on a path to achieve our energy goals?
 - What can Rhode Island achieve if all processes are tuned to work optimally together?
 - After considering how the integration of existing processes can be improved and maximized, what are the remaining gaps, and what new or revised processes will address them?

Mapping Existing Processes

- The SIRI group identified thirteen distinct processes in which state regulation influences electricity consumers, utilities, and private sector actors to consider the state’s priorities on climate, clean energy, and customers

Category	Process
Customer-Facing Processes	Energy Efficiency Program/Least-Cost Procurement
	Ratemaking – Delivery Prices
	Retail Choice
	Interconnection Standards
Renewable Energy Promotion Processes	Renewable Energy Growth Program
	Net Metering
	Renewable Energy Standard
	Long-Term Contracting Standard for Renewable Energy
Grid Planning, Procurement and Investment Processes	System Reliability Procurement/Least-Cost Procurement
	Infrastructure, Safety, and Reliability Plan
	Utility Financial Incentive
	Standard Offer Supply Plan
	Environmental Regulation

Test Cases

- The SRI team evaluated how a select group of resource, end use, and grid planning outcomes would be promoted or inhibited by existing processes
 - Non-wires solutions in utility planning: Chosen as a test case because of the current limited focus of SRP and the desire to see broader application.
 - Solar PV deployment: Chosen because of the number of processes focused on renewables in Rhode Island, particularly solar PV.
 - Strategic electrification – heating: Chosen because it was already recognized as an area where current processes are not adequately addressing the perceived opportunity.
 - Strategic electrification – transportation: Chosen because it represents a significant potentially transformative change to the electric grid.
 - Active load management: Chosen because it is the prototypical example of a more dynamic two-way electricity grid.

SIRI Recommendations

- **Recommendation #1: Identify Ways to Promote More Cost-Effective, Comprehensive NWA Distribution Planning**
- **Recommendation #2: Assess Market Potential, Costs, and Benefits of Strategic Electrification and Active Load Management**
- **Recommendation #3: Pave the Way for Accelerated Use of Electric Vehicles**
- **Recommendation #4: Map Rhode Island's Current Renewable Energy Promotion Processes and Assess Adequacy and Gaps**
- **Recommendation #5: Assess Market Potential, Costs, and Benefits of AMI and TVR**
- **Recommendation #6: Consider Whether Methods of Performance Regulation Can Be Implemented to Further the Public Good**

#1: NWA Distribution Planning

- **SIRI finds that a broader interpretation of the SRP law could provide greater benefits to consumers and the grid, and SIRI finds that opportunities exist to expand the SRP Standards to align with other processes like distribution planning, REG, and net metering:**
 - Increase collaborative engagement in the distribution planning process
 - Improve coordination of distribution planning/SRP with other processes
 - Fulfill objective of executing on all cost-effective NWA opportunities
 - Explore ways to address funding issues
 - Create a suitable financial incentive for NWA distribution planning

#2: Strategic Electrification & ALM

- Improving our understanding of the energy system impacts of high-efficiency electric heat and active load management will be critical for: 1) determining Rhode Island's energy savings targets for 2018-2020; 2) updating the EE and SRP Standards; and 3) developing the 2018-2020 EE and SRP Plans:
 - Continue to gather data and information through ongoing programs and pilot experiences
 - Explore formal incorporation of strategic electrification and ALM into EE Program process

#3: Electric Vehicles

- **The Rhode Island Zero Emission Vehicle (ZEV) working group has identified high- and/or near-term priority action items regarding the EV market in Rhode Island. Specific items were highlighted relative to regulatory and utility issues pertaining to EVs. The SIRI team drew on the action items listed by the ZEV working group, and blended in some additional observations on EVs.**

#4: Map RE Processes

- **An effort should be made to review Rhode Island's existing suite of renewable energy promotion processes and confirm that the processes are adequately serving the state's clean energy goals:**
 - Maintain commitment to renewable energy deployment in Rhode Island
 - Task the DG Board and interested stakeholders with reviewing processes to assess the complementary nature of the programs and what improvements could improve their effectiveness
 - Coordinate among renewable incentive programs to ensure optimal design and delivery
 - Integrate renewable programs into utility planning

#5: AMI & TVR

- There are promising rate design models such as time-varying rates (TVR) that may provide cost-effective energy, economic, and environmental benefits to Rhode Island. Limited or no information is available on the market potential, costs, and benefits of implementing TVR and associated enabling technology such as advanced metering infrastructure in Rhode Island specifically:
 - Monitor the National Grid “Smart Energy Solutions” pilot in Worcester, MA and review results as they become available
 - A collaborative study hosted either by the PUC or the OER and supported by the utility should be conducted that engages stakeholders in the business case (i.e. potential, costs, and benefits) of AMI and TVR in Rhode Island

#6: Performance Regulation

- **Establish forum to explore the expanded use of performance incentives in Rhode Island. As part of this effort, examine opportunities to better align the utility's incentives across various processes with policy goals and priorities, including SRP and NWAs. Consider the possibility of mechanisms that would reward activities that yield system, customer, and environmental savings beyond just EE.**

Systems Integration Rhode Island (SIRI) Vision Document – Executive Summary

November 2015

1. Introduction

Rhode Island’s energy system is at the cusp of a fundamental long-term transformation. Our electric grid is becoming increasingly more complex as consumers adopt distributed energy resources—energy efficiency, demand response, renewable energy, and energy storage, among others. New electric technologies are entering the home heating and transportation markets—from highly efficient cold climate heat pumps to electric vehicles. These resources and technologies are becoming more affordable and widely available; many of them benefit from Rhode Island’s strong state support, public policies, and goals for clean energy deployment and greenhouse gas emissions reduction. The changing nature and growth of customer resources holds significant implications for the state’s electric grid and grid managers.

As Rhode Island’s energy system evolves, we face new challenges and opportunities. Utility operators will need to manage distributed generation in a system originally designed for centralized production and one-way power flow. This new requirement at the distribution level will entail new types of investment and operating expertise to allow management of distributed resources in a manner that enables more efficient solutions for customers. At the same time, some distributed energy resources offer the promise of creative new ways to manage and optimize energy demand. Furthermore, utility planners can reduce, defer, or possibly avoid traditional investments in certain types of grid infrastructure to meet growing electric demand by using strategically deployed energy efficiency, renewable energy, or other “non-wires alternatives” projects. For utility regulators, the changing system may raise new questions about traditional utility planning processes, rate structures, cost recovery mechanisms, incentives and weighing the benefits and costs of new investments. As Rhode Island successfully facilitates a transition to a more distributed grid that values, integrates, and plans for growth in customer resources, it will stimulate further economic development in its clean energy industry sector; give consumers and communities more opportunities to take control of and manage their energy costs and preferences for greater system efficiency; lower costs than would otherwise be experienced in the future; and help the state meet climate goals by reducing greenhouse gas emissions.

In order to better understand the challenges and capitalize on the opportunities described above, representatives from the Office of Energy Resources (OER), the Energy Efficiency and Resource Management Council (EERMC), the Distributed Generation Board (DG Board), and National Grid convened a “Systems Integration Rhode Island” (SIRI) working group during 2014-2015. The idea of “systems integration” recognizes that Rhode Island already has several focused, strong, and effective energy processes that can be built upon to support the achievement of future objectives for the electric grid.

The purpose of the SIRI group was to take a first step at mapping out key issues related to the future of Rhode Island’s electric grid and offer early stage recommendations for addressing opportunities, filling gaps, and gaining efficiencies in existing state processes.

The SIRI working group’s efforts culminated in a report that is intended to be a resource for decision-makers. The document itself holds no regulatory authority. The purpose of the report is to provide a framework of understanding and a collective roadmap for interested parties—including the utility, utility regulators, and key energy stakeholders—in order to identify areas of mutual collaboration, guide near-term efforts, assist in acquiring and applying new information, and facilitate the development of future proposals. Some recommendations from the report may rise to the level of needing PUC attention; others may not.

SIRI is particularly focused on the short to medium term, but is also motivated by longer term technology trends and clean energy goals. The report raises prospective recommendations for Rhode Island processes in order to advance outcomes relative to state priorities, including achieving energy, economic, and environmental goals while providing safe, reliable and efficient service to customers at a reasonable price. The recommendations should be understood as forward-looking. The SIRI team approached discussions from the perspective that both National Grid and other stakeholders have been working diligently to meet obligations under current programs and expectations. The SIRI report recommendations both acknowledge the good work done to date, but also focus on future opportunities and needs to unlock new potential in our future electric grid planning and investments. The SIRI group envisions that this report will provide a solid framework to advance this important and complex discussion and decision-making process going forward.

The SIRI group undertook the following tasks, which are documented in detail in the report and summarized in the remainder of this Executive Summary:

- Define what “systems integration” means for Rhode Island within the context of the newly-approved State Energy Plan and ongoing energy/grid planning, procurement, and investment processes;
- Inventory and map out the applicable existing energy policy/regulatory processes in Rhode Island and their interaction;
- Propose preliminary approaches and recommendations for addressing key issues; and
- Establish a work plan, based on the recommendations, that defines next steps and milestones related to systems integration.

2. Defining “Systems Integration”

The SIRI effort proceeds within the context of overarching goals set by Rhode Island for the future of the state’s energy system. These goals are established in the recently adopted 10-year update to the Rhode Island State Energy Plan. Achieving Rhode Island’s energy goals is anticipated to involve significant changes in the electric sector, which will become more distributed and will converge with the thermal and transportation sectors. The SIRI working group acknowledged that current processes for electric distribution grid system planning and investment are robust, support the state’s goals, and will continue to be important. However, essential gaps and areas for improvement exist. The SIRI team developed the following description for “systems integration”:

“Systems Integration” refers to the intentional and thoughtful coordination of existing systems (i.e. processes and stakeholders), so as to harmonize them with the ability to achieve stated goals. While there is currently some coordination among processes and stakeholders, SIRI asks the following questions to examine potential improvements:

- What steps can Rhode Island take today to put us on a path to achieve our energy goals?
- What can Rhode Island achieve if all processes are tuned to work optimally together?
- After considering how the integration of existing processes can be improved and maximized, what are the remaining gaps, and what new or revised processes will address them?

3. Mapping Existing Processes

To answer these questions, the SIRI group began by inventorying and mapping out existing energy policy/regulatory processes in Rhode Island and their interaction. The team identified thirteen distinct processes in which state regulation influences electricity consumers, utilities, and private sector actors to consider the state’s priorities on climate, clean energy, and customers. To help build a framework for the processes, the SIRI group binned the processes into three categories: (1) Customer-Facing, (2) Renewable Energy Promotion, and (3) Grid Planning, Procurement and Investment. The table below lists the processes that SIRI considered.

Category	Process
Customer-Facing Processes	Energy Efficiency Program/Least-Cost Procurement
	Ratemaking – Delivery Prices
	Retail Choice
	Interconnection Standards
Renewable Energy Promotion Processes	Renewable Energy Growth Program
	Net Metering
	Renewable Energy Standard
	Long-Term Contracting Standard for Renewable Energy
Grid Planning, Procurement and Investment Processes	System Reliability Procurement/Least-Cost Procurement
	Infrastructure, Safety, and Reliability Plan
	Utility Financial Incentive
	Standard Offer Supply Plan
	Environmental Regulation

The SIRI team took the following approach to consider these processes through the lens of systems integration:

- List and characterize current Rhode Island energy processes;
- Reflect on how the processes interact with and inform each other;
- Note gaps or barriers in the ways the processes interact and inform each other; and
- Identify and discuss opportunities for improvements in the performance of the processes to further Rhode Island energy goals.

The SIRI team examined how each process interacts with the other processes, identified gaps where processes did not address state priorities, and brainstormed recommendations to address these gaps.

4. Test Cases

After mapping the relationships among Rhode Island’s current energy/grid planning, procurement, and investment processes, the SIRI team considered five “test case” scenarios through the lens of these existing processes. The purpose of the test cases was to better understand the effect of the existing processes on key issues related to Rhode Island’s evolving electric grid and the state’s energy goals. The team evaluated how a select group of resource, end use, and grid planning outcomes would be promoted or inhibited by existing processes. The following test cases were examined:

- Non-wires solutions in utility planning: Implementing “non-wires alternatives” (NWA) can potentially cost-effectively defer, avoid, or reduce the size/scope of transmission and distribution investments.
- Solar PV deployment: Expanding solar PV deployment on the distribution grid could test various regulatory, operational, and programmatic aspects of Rhode Island’s existing electric distribution system processes.
- Strategic electrification – heating: Emerging electric technologies (e.g. highly efficient heat pump technologies) may provide significant savings not just through increased efficiency of electric use, but also through effective substitution of electric use for applications that have traditionally been dominated by fossil fuels (e.g. heating, transportation).
- Strategic electrification – transportation: Emerging electric technologies (e.g. electric vehicles) may provide significant savings and benefits through effective substitution of electric use for applications that have traditionally been dominated by fossil fuels (e.g. transportation).
- Active load management: Active load management (ALM) involves direct control of electric loads—by the utility, the customer, or a third party—in order to reduce demand during peak periods or balance the supply of electricity at other times.

The SIRI team identified a list of synergies and barriers within each existing process for the applicable test case, as well as gaps and recommendations where current processes do not adequately address the test case.

5. Recommendations

The SIRI group’s final step was developing six overarching recommendations for next steps distilled from the process mapping and test case exercises. The recommendations should be considered as early stage, near-term recommendations for systems integration in Rhode Island. The list of recommended actions is not necessarily comprehensive, nor does it attempt to grapple with the full scope of policy, regulatory, and technical challenges that Rhode Island will face as its electric distribution grid evolves in the coming years. The SIRI team recognizes that further efforts and discussions will certainly be needed to flesh out the full range of issues at hand, as well as to delve deeper into the details of the recommendations described below. The six recommendations are summarized below:

1. Identify ways to promote more cost-effective, comprehensive non-wires alternative distribution planning

As different types of distributed energy resources become increasingly prevalent on the state’s electric grid, opportunities may arise to cost-effectively defer, avoid, or reduce the size/scope of traditional distribution investments through incorporating more of these technologies into the distribution planning process. This recommendation identifies next steps for increasing collaborative engagement in the distribution planning process; improving the coordination of distribution planning and System Reliability Procurement (SRP) with other processes; fulfilling the objective of executing on all cost-effective non-wires alternative (NWA) opportunities; exploring ways to address funding issues; and creating a suitable financial incentive for NWA distribution planning.

2. Assess market potential, costs, and benefits of strategic electrification and active load management

Strategic electrification and active load management (ALM) are two strategies that may provide cost-effective energy, economic, and environmental benefits to Rhode Island. These strategies have been explored only on a very limited basis to date in Rhode Island, and information is currently lacking on

the market potential, costs, and benefits of broader implementation. This recommendation identifies next steps to continue gathering data and information through ongoing programs and pilot experiences and explore formal incorporation of strategic electrification and ALM into the Energy Efficiency Program process.

3. Pave the way for accelerated use of electric vehicles

Electrification of the transportation sector through the increasing use of electric vehicles will help Rhode Island achieve energy, economic, climate, and air quality goals. Separate from SIRI, Rhode Island established a Zero Emission Vehicle (ZEV) Working Group in 2014 in order to discuss actions necessary to promote the responsible growth of the ZEV market in Rhode Island. The working group explored issues critical to the efficient and effective deployment of ZEV solutions across the policy, regulatory, and business landscapes. This recommendation draws on the action items developed by the ZEV Working Group and blends in some additional observations on EVs made by the SIRI team.

4. Map Rhode Island's current renewable energy promotion processes and assess adequacy and gaps

Rhode Island has four major processes that promote renewable energy: the Renewable Energy Growth Program, Net Metering, the Renewable Energy Standard, and the Long-Term Contracting Standard for Renewable Energy. Each process serves a distinct purpose; however, based on the process mapping and test case exercises, there appear to be some ways in which the different programs do overlap, as well as some gaps not covered by the current suite of programs. This recommendation identifies next steps to confirm that the processes are adequately serving the state's clean energy goals; integrating so as to simplify the experience of customers and developers; optimally stimulating the state's growing clean energy industry; and achieving clean energy goals at maximum benefit and minimum cost.

5. Assess market potential, costs, and benefits of advanced metering infrastructure and time-varying rates

There are promising rate design models, such as time-varying rates (TVR) that may provide cost-effective energy, economic, and environmental benefits to Rhode Island. However, these rate design structures require enabling technology—advanced metering infrastructure (AMI)—to be implemented. Limited or no information is available on the market potential, costs, and benefits of implementing AMI and TVR in Rhode Island specifically. This recommendation identifies next steps to study the business case for AMI and TVR in Rhode Island.

6. Consider whether methods of performance regulation can be implemented to further the public good

There are several different financial structures by which the utility earns revenue and recovers costs that vary across all processes examined. In some cases, relatively strong performance incentives exist, however, in other cases, there is no incentive or financial structure in place. This recommendation identifies next steps to explore the potential expanded use of performance incentives in Rhode Island, with the intent of examining opportunities to better align the utility's incentives across various processes with policy goals and priorities.



STATE OF RHODE ISLAND
**ENERGY EFFICIENCY &
RESOURCE MANAGEMENT COUNCIL**

EERMC 2016 MEETING CALENDAR

Thursday, January 14, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, February 11, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, March 10, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, April 14, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, May 12, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, June 9, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, July 14, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, August 11, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, September 8, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, September 29, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, October 13, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, November 10, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908
Thursday, December 8, 2016	3:30-5:30 PM	Conference Room B, 2 nd Floor, Department of Administration, One Capitol Hill, Providence, RI 02908