National Grid

The Narragansett Electric Company

2015 System Reliability Procurement Report

November 1, 2014

Submitted to:
Rhode Island Public Utilities Commission

R.I.P.U.C. Docket No. 4528

Submitted by:

nationalgrid

Letter

Jennifer Brooks Hutchinson
Senior Counsel

October 31, 2014

VIA HAND DELIVERY & ELECTRONIC MAIL

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

RE: Docket 4528 - The Narragansett Electric Company d/b/a National Grid
2015 System Reliability Procurement Report

Dear Ms. Massaro:

Enclosed are ten (10) copies of National Grid's[1] proposed System Reliability Procurement Report for 2015 (2015 SRP Report). The 2015 SRP Report is being filed as a settlement, agreed to by the participating members of the Energy Efficiency Subcommittee of the Energy Efficiency Resources Management Council (EERMC).

This 2015 SRP Report is being filed pursuant to the System Reliability and Least Cost Procurement statute, R.I.G.L. § 39-1-27.7 and the revised System Reliability Procurement Standards (the "Standards") that were approved by the Public Utilities Commission (PUC) in Docket 4443.

The 2015 SRP Report is consistent with the framework established in the Three Year Energy Efficiency Procurement Plan (Three Year Plan) filed and approved in Docket 4522 to integrate the analysis of non-wires alternatives (NWAs) into the Company's planning functions by using analytical tools to evaluate the costs and benefits of traditional and NWA solutions, and to identify system needs for which a NWA is the preferred solution.

In this 2015 SRP Report filing, the Company is proposing to continue the Load Curtailment Pilot (Pilot), which began in 2012 and was approved by the PUC in Docket 4296, to test the use of targeted energy efficiency and load curtailment by customers, or demand response, as a means to manage local distribution capacity requirements during peak periods. In the Company's 2012 SRP Report-Supplement, the Company identified the area served by its Tiverton substation as an appropriate candidate for an NWA pilot. The Pilot area is comprised of 5,200 customers. While participation in 2014 has so far been steady, the 2015 SRP Report proposes to somewhat enhance the portfolio of incentives offered in 2014 primarily through a

[1] The Narragansett Electric Company d/b/a National Grid (National Grid or the Company).

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new offering on heat pump water heaters. The enhancements are intended to maintain the steady progress toward the required amounts of load relief necessary to defer the Tiverton substation upgrade with consideration to the notion that the existing offerings may be reaching a level of saturation within the Pilot area. The 2015 SRP Report will continue to directly market to customers to both recruit and maintain engagement, but it will also place a focus on increased engagement through community partners, through both the Company's Jurisdiction liaisons and in collaboration with the Rhode Island Office of Energy Resources on their Solarize initiative.

The Company is proposing to fund the fourth year of the Pilot through a combination of leveraging existing energy efficiency funds by targeting certain energy efficiency programs and measures in the Tiverton/Little Compton area, and additional funding for increased marketing efforts and incentives. The additional funding proposed is not included in the budget for the 2015 Energy Efficiency Program Plan that is being submitted separately for the PUC's consideration; therefore, the Company is requesting the PUC's approval of the fourth year budget for the 2015 SRP Report in the amount of $513,193, and to apply the existing fund balance in the amount of $-55,448 to the 2015 budget for a total customer funding request of $568,641. As indicated last year, if the Pilot is successful in enrolling enough load relief and in providing sustained load relief over a four (4) year period, it will result in deferral of a new substation feeder estimated to cost $2.93 million in 2014,[2] which equates to a net present value cumulative distribution savings of $653,273 over a four-year deferral. While the Company acknowledges that the potential deferral value of the proposed substation upgrade is less than the total cost of the Pilot, this investment continues to be necessary in order to determine the appropriate levels of administration, customer outreach, and evaluation necessary to acquire participation in load response events.

It is expected that the 2015 investment will install combined annual summer demand savings of 183kW for the residential and commercial and industrial sectors in the Tiverton/Little Compton area. In accordance with the Standards' requirements for cost effectiveness, in 2015 the Pilot will create $1.53 of economic benefits for every $1 invested.

As in past years, the Company is proposing to roll the additional funds needed for the Pilot into the existing Energy Efficiency Program (EEP) charge, rather than as a separate line item on customers' bills. The total additional funding needed for the Pilot in 2015 is $0.00007 per kWh. The proposed EEP charge requested as part of the 2015 EEP Plan is $0.00935 per kWh. With the addition of the SRP funding, if approved, the total EEP charge would be $0.00942 per kWh (excluding the uncollectible recovery). As with the Energy Efficiency funds, actual revenues will be reconciled against actual expenses at the end of the year and any difference will be credited or charged to customers in 2016.

[2] The Company made minor adjustments in the cost of the wires solution over last year to reflect inflation. Additional detail regarding the cost adjustments is set forth in the 2015 SRP Report.

The 2015 SRP Report has been reviewed and approved by the EERMC and complies with the Least Cost Procurement statute and the Standards. Accordingly, the Company respectfully requests that the PUC approve this 2015 SRP Report.

Thank you for your attention to this filing. If you have any questions, please feel free to contact me at (401) 784-7288.

Very truly yours,

Jennifer Brooks Hutchinson

cc: Karen Lyons, Esq.
Jon Hagopian, Esq.
Steve Scialabba, Division

2015 SRP Plan

SYSTEM RELIABILITY PROCUREMENT

2015 REPORT

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2015 SYSTEM RELIABILITY PROCUREMENT REPORT

Introduction

The Narragansett Electric Company's d/b/a National Grid (National Grid or Company) is pleased to submit this annual System Reliability Procurement Report (SRP Report) for 2015 to the Rhode Island Public Utilities Commission (PUC). This SRP Report has been developed by National Grid in collaboration with the Collaborative Subcommittee of the Energy Efficiency and Resource Management Council (EERMC).[1]

This SRP Report is submitted in accordance with the Least Cost Procurement law, R.I.G.L. §39-1-27.7, the basis for which is the Comprehensive Energy Conservation, Efficiency, and Affordability Act of 2006 (as amended in May 2010),[2] and the PUC's revised "System Reliability Procurement Standards," approved by the PUC in Docket No. 4443 (SRP Standards).[3] This Plan is being jointly submitted as a Stipulation and Settlement (Settlement), entered into by the Division of Public Utilities and Carriers (the Division), the EERMC, The Energy Council of Rhode Island (TEC-RI), Environment Northeast (ENE), People's Power & Light and National Grid (together, the Parties), and addresses all issues raised by members of the Collaborative Subcommittee concerning the Company's SRP Report for calendar year 2015.

[1] Members of the Subcommittee presently include the Company, the Division, TEC-RI, and ENE, along with participation from the Office of Energy Resources (OER), several EERMC members and representatives from the EERMC's Consulting Team. The Collaborative has functioned as a subcommittee of the EERMC since 2008.

[2] The Comprehensive Energy Conservation, Efficiency and Affordability Act of 2006 (the 2006 Act) provides the statutory framework for least cost procurement including system reliability in the State of Rhode Island. The 2006 Act provided a unique opportunity for Rhode Island to identify and procure cost-effective customer-side and distributed resources with a focus on alternative solutions to the traditional supply options. Over time these alternative solutions may deliver savings to customers by deferring or avoiding distribution system investments, and improving overall system reliability.

[3] The Least Cost Procurement law, R.I.G.L. §39-1-27.7, requires standards and guidelines for "system reliability" that includes the "procurement of energy supply from diverse sources," including, but not limited to, renewable energy resources, distributed generation, including but not limited to, renewable resources and cost-effective combined heat and power systems, and demand response designed to, among other things, provide local system reliability benefits through load control or using on-site generating capability. On June 7, 2011, the PUC unanimously approved revised standards for system reliability, finding that the standards were consistent with the policies and provisions of R.I.G.L. 39-1-27.7.1(e)(4), (f) and R.I.G.L. 39-1-27.7.3.

Section 2.1(D) of the SRP Standards requires that the Company identify transmission or distribution (T&D) projects that meet certain screening criteria for potential non-wires alternative (NWA) solutions that reduce, avoid, or defer traditional T&D wires solutions. NWAs are actions by customers that may defer the need for Company investment. NWAs provide demand reduction either through targeted energy efficiency efforts, controlling load at times of local peak demand, distributed generation used at time of peak demand, and controllers that are programmed to reduce demand at peak demand. Section 2.1 (I) of the SRP Standards further require the Company to submit on November 1 of each year an SRP Report that includes, among other information, a summary of where NWAs were considered, identification of projects where NWAs were selected as a preferred solution, an implementation and funding plan for selected NWA projects, recommendations for demonstrating distribution or transmission projects for which the Company will use selected NWA reliability and capacity strategies, and the status of any previously approved pilots.

National Grid seeks approval of this 2015 SRP Report in accordance with the guidelines set forth in Section 2.1 of the SRP Standards.

Summary of Company Proposal

As part of this 2015 SRP Report, the Company is proposing to continue the Load Curtailment Pilot (Pilot) called DemandLink™ that was proposed in the 2012 System Reliability Procurement Report – Supplement (2012 SRP Report) and approved by the PUC in Docket 4296. The purpose of the Pilot is to test the use of load curtailment by customers, or demand response, as well as focused energy efficiency as a means to manage local distribution capacity requirements during peak periods. As explained in the 2012 SRP Report, the Company identified the area served by its Tiverton substation as a candidate for a pilot. The Company will leverage experience from its first two-and-a-half years of Pilot implementation, as well as its previous effort in targeted energy efficiency (EE) on Aquidneck Island conducted in 2009-2010. That effort was performed as a pilot in the approved Energy Efficiency Program Plan for 2009 using EE funding.

The Company proposes the continued use of EE funds from programs proposed in the 2015 Energy Efficiency Program Plan filing and certain additional funds as proposed below to continue this Pilot in 2015. The Company estimates that approximately $514,300 will be required in 2015 to implement the year's plan. This is in addition to approximately $495,400 in focused energy efficiency costs that will be leveraged through energy audits and provision of equipment through the EE programs.

The requested funds will be used to enhance existing Program Plan energy efficiency incentives, provide additional energy efficiency measures that would not otherwise be offered through the statewide programs, increase marketing in the Tiverton/Little

Compton area to increase participation in all aspects of the Pilot and conduct a targeted demand reduction program that will reduce customer air conditioning loads. The Pilot area serves approximately 5,200 customers and the Company is seeking enough customers to provide 1MW of load reduction by the end of 2017 to allow deferral of a new substation feeder for that four-year period. If the Pilot is successful in enrolling enough load relief and in providing sustained load relief over a six-year period, it will result in the deferred construction of a new substation feeder originally estimated to cost $2.93 million in 2014.

Projects Reviewed for NWA

The Company screened transmission and distribution projects against the criteria listed in Section 2.1 (C) of the SRP Standards and its internal planning document throughout 2014. No new projects met the criteria. Projects for consideration included all projects initiated since March 31, 2013. [4] Since this date, 134 new distribution projects were initiated. One hundred five projects were immediately discounted from NWA criteria review based on their primary driver. Projects with primary drivers of asset condition, damage/failure, and statutory/regulatory (new business and public works) are fundamentally unsuitable for an NWA. The remaining 29 system capacity and performance (SC&P) driven projects are then reviewed further for NWA suitability. The Company determined that certain SC&P projects contain scopes that are not suitable for NWAs. Such scopes include EMS expansion projects, volt/var experimental projects, storm hardening projects, battery program, and spare transformer program requirements which excludes another 21 projects. The NWA analysis for the remaining 8 projects is summarized in the table below.

Project Group	**Project IDs**	**NWA Comment**
Central Falls Substation Load Relief	C051385	Less than $1M project, immediate need
Providence Study Engineering	C051586	Study in progress. NWA suitability not determined
Pawtucket No 1 Substation Load Relief	C053268	Less than $1M project, immediate need
Quonset Substation Expansion	C053646 C053647	Capacity project to address area load growth. Distributed generation being considered to defer capital costs.
45J4 45J6 Feeder Tie Carr Ln Jamestown	C053946	Less than $1M project, immediate need
Jepson 115kV Substation Rebuild	C054052 C054054	Distribution work, including asset condition, associated with a larger transmission project

Of the list above, one project group requires further explanation. The Quonset Substation Expansion Projects include a recommended scope estimated at $3.8 million to address a

[4] The current level of Least Cost Procurement system-wide in Rhode Island may be contributing to a reduction in the number of demand-growth triggered distribution projects.

number of issues in the Quonset Point area primarily driven by load growth. The recommended plan was selected after consideration of existing and in-construction distributed generation. The Company is considering whether a significant CHP plant at a customer in the area will offset portions of the load growth to support the recommended plan. Once the operational history during peak loading conditions is better understood, the Company may revise this estimate.

Forecasted Load Growth in Tiverton Area

Appendix 1 shows historical and forecast coincident summer peak demands for Rhode Island. The highest peak demand was recorded on July 19, 2013 at 1,956 MWs and the highest winter demand was in December 2004 at 1,394 MWs. The Company's distribution system serves approximately 492,000 electric customers in 38 cities and towns in Rhode Island. The residential class accounts for about 41% of the Company's total Rhode Island load while the commercial class accounts for about 47% and the industrial class 12%.

Per Appendix 1, Tiverton and Little Compton annual weather-adjusted summer peaks are expected to increase at average annual growth rates of 1% and 0.9%, respectively for the next 10 years, both higher percentages than those of the Company as a whole which is expected to grow annually by 0.8%. Residential deliveries accounted for over 70% for Tiverton's deliveries and 85% of Little Compton's deliveries, both higher percentages than those of the Company as a whole.

Tiverton Substation Upgrade Work

In last year's filing, the Company made a determination that there is a change in the expected load growth at the Tiverton substation that deferred the standard engineering loading solution (wires project) by one year. As a result of the mild 2014 summer, the Company cannot refine the analysis further until a revised forecast is issued (expected November 2014). The forecast is expected to include a factor to adjust for the mild summer, and with subsequent analysis, is likely to indicate the NWA pilot should continue with its 2015 goals.

The cost adjustments to the wires solution below are related to inflation. A correction to the estimated 2013 inflation rate of 1.6% was adjusted down to the actual 2013 average of 1.5%. The 2014 average inflation through July is 1.8%. The Company continued to use 1.8% as the best estimate of inflation for 2015.

	Distribution	Substation	Total
Capital	$1,788,110	$805,172	$2,593,282
O&M	$41,209	$83,654	$124,863
Removal	$164,836	$83,654	$248,490
Totals	$1,994,155	$972,480	$2,966,635

Please refer to the 2012 SRP Report for a detailed description of the engineering work.

Pilot Implementation Experience

The following sections provide details on the implementation of the pilot's most recently completed year of activities and the current year's activities to date. For more information on the implementation activities in years prior to these, please review past SRP Reports.

2013 Summary

In 2013, the Demand Link Pilot expanded its enhanced and new incentives from the demand response (DR)-capable wi-fi thermostats for residential and commercial customers to include similar incentives for customers with window air conditioning (AC). Customers with broadband internet and window AC were able to receive a free, DR-capable wi-fi thermostat and plug load devices for their window units. Customers with window AC could also participate in a $50 rebate for the purchase of a new Energy Star® rated AC unit or the $25 rebate and no-cost recycling for their old AC units. The DR-capable lighting ballasts were not offered in 2013 due to a lack of interest from participants in 2012 and feedback from the implementation vendor.

The thermostat and plug load device equipment and installations were free to participants, who were required to sign a contract to participate in the pilot for at least two years. Eligible customers were also, as in 2012, encouraged to receive a free, EnergyWise or Small Business Direct Install program audit and to take advantage of the energy efficiency measures recommended by that analysis of their home or business.

Marketing for the Pilot began much earlier in 2013 than in 2012 with the first materials going out to customers by mid-April. The campaign was a significant expansion from 2012 in that it shifted its focus from targeted lists of customers to all customers in the Pilot area and increased the frequency with which customers saw Demand Link material. It included two rounds of direct mail packets, two rounds of outbound calling, one direct mail post card and three emails to Pilot customers. All marketing components directed customers to make contact via the centralized number or email to learn more about the program and sign up. RAM marketing received these calls and emails, and then pre-qualified interested customers and sent the resulting leads to RISE for scheduling.

Telemarketing proved to be the greatest contributor of leads to the pilot, supplying over 60%.

The messaging in each component, for most of the year, was centered around a "save money/save energy" theme. The intent was to convince customers that it was worth participating because they could save both money and energy in taking advantage of the Demand Link offers and the free home audits through the statewide EE programs. Toward the end of the year, the Company started to incorporate messaging that was more transparent about why the pilot is being implemented and how customers can help both themselves and their community by participating. This was an effort to counteract some of the concerns heard during the November focus groups with non-participants. The focus groups were held as part of the pilot's evaluation by Opinion Dynamics Corp. The results were incorporated into the 2013 Marketing Effectiveness Report delivered on March 29, 2014 and included in Appendix 4 of this Report.

While the independent evaluation will determine the extent to which the modifications made in 2013 (based on the lessons learned from 2012) contributed to load reduction in the Pilot area, many more customers were recruited in 2013. By the end of the year, the Company estimates that it achieved approximately 182% of the 2013 summer demand savings target of 161kW for EE set in the 2013 SRP Report. Combined with the EE savings installed in 2012 and the installed potential for DR from both years, the Pilot estimates that it achieved 292% of its target of 150kW needed to defer the substation upgrade in 2014. Detailed estimates of kW capacity and other costs and benefits can be found in Appendix 3 of this report and additional information on 2012 and 2013 implementation can be found in the 2013 SRP Report[5]. While this information is used to gauge the progress of the Pilot and project future activities, it is important to note that these numbers represent estimates only. The success of the Pilot in recruiting enough sustained load relief to defer the wires project will be determined through the final evaluation report from Opinion Dynamics Corporation at the conclusion of the Pilot.

2014 Summary

With the increased participation seen in 2013, the Company's plan for 2014 was to maintain the set of incentives that seemed to be resonating with customers. As a result, the only changes that were made to the offers to customers were an LED upgrade for customers getting residential assessments and an increased size limit on window ACs for plug load devices.

[5] The 2013 System Reliability Procurement Report was filed on November 2, 2012 as part of Docket 4367. It was approved in December 2012 by the PUC.

The LED upgrade was a change in the bulbs that are installed for free in customers' homes during a residential assessment. In the statewide EE programs, customers were allowed to have up to three bulbs replaced with LED bulbs at no cost to them and CFLs replaced the rest. With this upgrade, customers within the pilot area could receive unlimited standard LED replacement bulbs at no cost to them.[6] This incentive was projected to be popular with customers and intended as a driver of additional leads for the other measures in the pilot that contribute more to peak load reductions.

The addition of the Safeplug® plug load device manufactured by 2D2C Inc. as a pilot measure increased the size limit of eligible window AC units to 12,000btu. In 2013, the Pilot introduced the ecobee Inc. Smart Plug® device so that window AC units could be linked to the wi-fi thermostats and controlled remotely. The ecobee device's power rating limited the size of eligible units to 8,000btu or less.

So far in 2014, more LED bulbs are being installed in greater numbers than projected. Initial feedback from the implementation vendor indicates that an average of over 20 LED bulbs are being installed in each residential home. This is a much higher average than originally projected and the reasons for it could vary. For example, perhaps customers on average, have some CFLs in their homes already that would not be replaced through the statewide EE program. They are being replaced through the Pilot.

The higher rated plug load devices are also beginning to impact the pilot in a positive way. RISE is actively installing plugs on devices greater than 8,000btu. The savings from these measures more directly affect the peak load in the area as they allow more air conditioning load to be cycled during peak hours.

The existing incentives from 2013 have continued to provide peak load savings for the pilot in 2014. By the end of 2014, the Company projects that it will have reached approximately 79% of its planned summer kW target of 188kW. The chart below illustrates the Company's projections for 2014 kW savings broken out by source.

	2014 Planning Assumption	**Current 2014 Projection**	**% of Planning Assumption**
DR Potential kW	33	35	107%
EE Installed kW	155	113	73%
Total	188	148	79%

[6] This measure was not marketed to C&I customers because LED bulbs are already installed for free in unlimited numbers through the Small Business Direct Install program.

The surge of participation seen in 2013 has been less apparent in 2014. The installations of wi-fi thermostats and smart plugs have been steady, but not as high as last year. Also, a greater proportion of the participants in 2014 so far have been customers with window AC units, which are estimated to provide smaller reductions through both DR and EE than central AC participants. Finally, the prevalence of window AC purchase and recycling rebates have been lower in 2014 so far, even with the local pick-up service for window AC recycling provided at no cost to the customer.

The C&I sector continues to be a challenge for the Pilot as participation continues to be low in 2014. Attempts to tailor the messaging more toward factors that might resonate better with C&I customers, such as helping their community by saving energy, have not been effective in recruiting additional customers so far this year. The Company has planned a canvassing initiative for the fall with RISE Engineering to try to garner some additional participation before the end of the year. This type of initiative allows for more personal contact between the Pilot and the potential participants. Particularly since the vendor reaching out is associated with the established EE programs, and there is an opportunity for a conversation to take place in person, the Company believes this effort will be more successful in recruiting business customers.

While the evaluation will endeavor to better understand participation trends for 2014 in its updated Marketing Effectiveness analysis due in early 2015, the Company speculates that the Pilot is reaching a point where it will have to spend more time and money per person to recruit the necessary level of participation through the existing measure mix. The customers who are inclined to participate have had many opportunities over the past three years to respond to marketing and participate in the Pilot. Remaining non-participants may need more convincing to participate.

Marketing

In 2014, the Company launched a marketing campaign that ran from mid-February through October. The campaign maintained its aggressive nature, but had a significant departure from 2013 in that it shifted the messaging focus from making multiple energy efficiency offers centered on a "save money/save energy" theme to providing Pilot customers with the underlying facts that initiated the Pilot. The new messaging attempted to inform customers of why National Grid is promoting these energy-saving solutions in their communities.

The 2014 campaign messaging included a series of direct mail and email newsletters containing information designed to educate customers about the reasons for the Pilot, attempts to reduce electricity consumption, and the benefits of the Pilot to the entire community. The newsletters were created to deliver different messages to two distinct customer types: Pilot Participants (those previously engaged in any level of Pilot energy-saving activity) and Non-Participants.

The messaging strategy emphasized "Working together to manage rising energy demand," and benefits that are "Good for you, good for our community, and good for everyone." The direct mail newsletter included articles highlighting the numbers of neighbors who had implemented one or more Pilot efficiency actions, as well as the economic savings enjoyed by Rhode Island customers from energy efficiency.

Once again, the Company hired RAM Marketing to complete outbound telemarketing calls to Non-Participant customers using a Company-created script of Pilot education and DemandLink program information. The outbound calling included two separate attempts to contact each working phone number of Non-Participants. The effort was designed to give customers the opportunity to ask questions in real-time of a representative who was knowledgeable about the Pilot. Examples of marketing materials used in 2014 can be found in Appendix 5.

Additionally, in 2014, the Company developed a localized online advertising presence on Patch.com, which serves local news to the Pilot area, as well as an online web landing page where Pilot information could be downloaded. Visitors could request a follow up phone call by completing a digital request form, or download product brochures, summer cooling guidelines, A/C rebate forms, and frequently asked questions (FAQs). The intent of the information on the web landing page was to improve customer awareness and education of the pilot while also reducing costs associated with answering the most common inquiries. The FAQ document also included contact information for RISE Engineering, RAM Marketing, and product manufacturers for participants who needed additional help. The Company developed a personalized welcome letter to be sent directly to customers by the Pilot's project manager soon after equipment install. This letter thanks the customers for signing up and conveys a few reminders and recommendations to maximize their experience and savings.

At the time of this writing, outreach to Pilot customers in 2014 has produced 414 pre-qualified leads compared with 1005 leads for the same period in 2013, and 209 leads produced for all of 2012. The year-to-year drop off in 2014 customer leads from the 2013 level may be another signal that acceptance of Pilot energy-saving solutions is nearing saturation within the Pilot footprint. The three-year marketing effort has resulted in nearly 34% of the targeted customers taking time to learn about the Pilot initiatives.

PENETRATION OF INTERESTED PILOT LEADS		
Pilot Year (through month)	**Leads Generated**	**Customer Penetration***
2012 (December)	209	4.2%
2013 (December)	1061	21.3%
2014 (August 29)	414	8.3%
Total through August 29, 2014	**1684**	**33.9%**

* Based on total of 4970 available Pilot customer phone numbers

So far in 2014, nearly 59% fewer customers accepted Pilot program offerings, despite an outreach effort that has included online banner advertising, a direct mail newsletter, five emailed e-newsletters, one direct mail post card, an energy efficiency local event, and two rounds of outbound telemarketing calling. As was the case in 2013, all marketing components in 2014 have directed customers to make contact via the online email form, centralized toll-free phone number or email to learn more about the program and sign up. RAM Marketing received these calls and emails, and then pre-qualified interested customers and sent the resulting leads to RISE Engineering for scheduling. Pre-qualification consists of verifying the customer's address and account on the Pilot area list and ascertaining the existence of broadband internet/WiFi and either central or window AC units, as well as customer interest in each rebate.

Community Event

On May 29, 2014, the Company held its second "Energy Efficiency Awareness Day," in conjunction with the statewide EE programs. The event was again held from 4:00p.m.-8:00p.m. at the Moose Café in Tiverton, RI. Representatives from RISE Engineering, Smart Power and TechniArt joined National Grid employees for an evening of conversation, questions/answers, and information exchange with customers.

Similar to 2013, the Company marketed the event broadly via newspaper and online ads as well as email blasts to attract customers to the statewide incentives and programs. A special post card (in addition to the post cards detailed in the previous outreach section) was sent to each eligible customer in the Demand Link Pilot area soliciting their attendance at the event to learn more about the offers especially for them. Unfortunately, the Company learned at the event that many customers only received the post card that same day and the attendance of pilot-eligible customers was much lower than it was in 2013.

Demand Response

Having determined in the fall of 2013 that the substation upgrade will be deferred by one year, in 2014 the Company planned to monitor the peak load on the affected feeders in order to call demand response (DR) events as needed. However, the summer of 2014 turned out to be mild with low humidity in the pilot area, effectively negating the need for any DR events because of load.

Despite this, the Company did call three DR events: one in late July, one in late August and one in early September. While these were not need-based, they served two purposes. First, they helped keep customers engaged with the program. With so much time and effort spent explaining the program and managing participants' expectations, to go an entire summer without calling an event could cause participants to become disengaged with the process and the Pilot in general or possibly create a negative response if the summer of 2015 has many need-based events.

Second, the DR events provided data that will be used to evaluate the preliminary impact of DR on the pilot area's load. The Pilot evaluation will be using a bottom-up approach to evaluate DR impact by analyzing each measure's estimated contribution to load reduction during the event hours. While the results of this analysis may not entirely reflect expectations of future need-based events, they will be a step in that direction that can be used as part of the planning process for future years.

The chart below gives an estimate of the number of customers who were expected to participate in each event in 2014. Actual participation and savings will be determined by the independent impact evaluation being conducted as part of the Pilot evaluation beginning once the peak season ends. More information on the evaluation can be found in a later section of this Report.

Demand Response Event Participating Units 2014		
Event	**Central AC Thermostats**	**Window AC Plug Devices**
7/23/2014	182	176
8/27/2014	192	196
9/3/2014	198	216

The Company found, through additional testing in 2014 prior to the summer season, that the plug load devices do not have the capability to cycle in the same way the central air conditioners do. Instead of turning on and off every 30 minutes, they respond to the event by turning the window ACs off at the beginning and keep them off until the end of the event. With this new information, the Company called only two-hour events for window AC participants to minimize discomfort.

2015 Pilot Implementation Plan

The implementation experience in 2014 so far indicates steady progress after the surge of participation seen in 2013. In 2015, the Company's goal is to maintain that steady progress. The lower numbers of leads and uptake of some of the measures so far in 2014, particularly after two aggressive marketing campaigns, may indicate that the Pilot is reaching a certain level of penetration in the eligible population for these measures beyond which the cost to recruit may be much higher. In an effort to address this without a significant lag in recruitment, the Company is proposing new incentives and altered projections of the existing offers in 2015. Coupled with another comprehensive marketing campaign and DR events triggered as necessary, the 2015 proposed plan aims to position the pilot for another successful year.

Incentives

In 2015, the Company plans to add an enhanced incentive to the Pilot for electric heat pump water heaters (HPWHs). Electric HPWHs are a good fit for this pilot for a number

of reasons. First, they are estimated to be in use during the peak hours of the day when load relief is necessary. Data from a field study on HPWHs completed in 2012 indicates that water heating energy use is highest in the morning and evening hours of the day[7]. This coincides with the pilot's time of peak load of approximately 3:30pm – 7:30pm.

Additionally, incorporating this measure will allow the Company to further leverage the incentives experience already in place because HPWHs are already offered through the statewide EE programs. This is in alignment with the themes in the SRP section of the 2015 – 2017 Least Cost Procurement plan.

The Company recently offered a $1000 rebate for HPWHs through the statewide EE programs that were very popular with customers. In 2014, that rebate was reduced to $750 and is expected to continue at this level in 2015. For eligible customers, the Pilot will supplement that $750 incentive with an additional $250 to bring the total incentive for the customer back up to the popular $1000 level. In many cases this will cover the entire cost of the unit, leaving customers responsible only for the installation costs. In 2015, the Pilot will go one step further and offer the customer an additional $100 toward the costs of installation. This is to entice customers who may not already be thinking about replacing their HPWH to participate.

In addition to the HPWHs, the Pilot's 2015 plan proposes to continue all the incentives that were offered in 2014. This includes the no-cost wi-fi thermostats for customers with central air, the no-cost wi-fi thermostats and plug load devices[8] for customers with window AC, the window AC purchase and recycling rebates and the encouragement to complete an EnergyWise or Small Business Direct Install (SBDI) energy assessment through the Rhode Island statewide EE programs with LED replacement bulbs. The quantities of some of these measures will be projected differently in 2015 based on the experiences of 2013 and 2014. For example, the window AC recycling and window AC purchase rebates have been less popular in 2014 than in 2013, so the Pilot will project to install less load relief from these measures in 2015. Central AC thermostats have also been less prevalent than projected but the installations of plug load devices are on track to meet their goal.

In 2015, the Company will also place an increased focus on recruiting customers on an income eligible rate. While this sector represents only approximately 6% of the eligible population, it is a segment the Pilot has not targeted before and may yield additional savings for minimal incremental cost. Because the income eligible customers are served

[7] *Heat Pump Water Heaters: Evaluation of Field Installed Performance*, Steven Winters Associates Inc., July 26, 2012 for National Grid, NStar and Cape Light Compact.
[8] Including both the ecobee Smart Plug and 2D2C Inc. Safeplug products. The Safeplug is for window AC units between 8000btu and 12,000btu in size while the Smart Plug is for units 8,000btu and smaller.

the statewide EE programs through CAP agencies, the Pilot will need to work with those agencies to deliver the pilot-specific incentives.

This implementation plan for 2015 reflects a significant amount of collaboration with the statewide EE programs in order to maximize incentives while minimizing costs. In addition to the on-going, streamlined delivery of the Pilot measures and EnergyWise/Small Business Direct Install programs through the same lead vendor, there are a couple of changes in 2015 that particularly highlight this collaboration. One is the transition of the subsidy of LED costs from the Pilot to the EnergyWise program. In late 2014, due to the decreasing prices of LEDs, the Company began to offer almost all models of LED replacement bulbs at no cost to the customer as part of the home energy assessment. As a result, the statewide EE program budgets cover most of costs associated with this. The Pilot will continue to promote this aspect and subsidize some LED bulbs that are still not covered by the EnergyWise program, but the budget for this effort is significantly reduced for 2015.

Another change that highlights the collaboration between the Pilot and the statewide EE programs is through incentives for wi-fi thermostats. In 2015, the Company will begin offering wi-fi thermostats to customers directly through the EnergyWise program (previously they had only been offered as a mail-in rebate) with a customer co-pay. To the extent the wi-fi thermostat models chosen to be offered statewide can be controlled through DR events and, for window AC customers, can communicate with plug load devices, the Pilot will work to subsidize the co-pay for customers, potentially giving them a choice of products and reducing the incremental costs for the Pilot.

These and measures will continue to be delivered primarily through the statewide EnergyWise and SBDI energy efficiency programs. Customers who wish to purchase HPWHs will be able to submit the same rebate form for the CoolSmart program as they do now and they will receive the additional incentives in the same way they receive the existing EE rebate. Area retailers and certified plumbers will also be communicated to customers as part of the marketing of this measure, giving them the control over the prices they pay and the contractors who will do the install. The Pilot will also continue to encourage customers to complete the free energy assessment of their home or business through these same statewide programs. While the Pilot encourages customers to install specific measures in order to achieve the required load reduction, simultaneously offering them an entire suite of measures incentivized by the statewide EE programs allows for a whole-house approach to customer service and increases the potential for additional EE savings in the Pilot area.

Additionally, the Company understands that there is potential for load growth through new HVAC construction that could be detrimental to the Pilot's progress toward load deferral. In 2014, the Company took steps to engage with HVAC contractors to see if

there would be interest in promoting or referring the Pilot. The response from the technicians themselves was not encouraging with the consensus being that if the program wasn't popular with customers, they might lose business in promoting it. However, the Company believes there might still be potential for engaging with these firms, so in 2015 the Company will coordinate meetings with management professionals in HVAC firms to see if any promotion is possible.

Marketing

Pilot telemarketing efforts in 2012, 2013, and 2014 combined have engaged nearly 34% of the nearly 5000 Pilot customers with active phone numbers in dialogue about the Pilot offers. In 2015, the Pilot's marketing campaign will once again utilize extensive outbound telemarketing which has proven to be the most successful method of generating leads for Pilot's energy-saving offers so far. Telemarketing, combined with direct mail, email, and online advertising have successfully generated over 1680 pre-qualified customer leads. Customers were counted as a "pre-qualified lead" only if they responded favorably during a live phone conversation by indicating their interest in one or more of several energy efficiency offers provided by the Company as part of the broader Pilot offering.

For 2015, marketing outreach will focus on the following communications goals:

- Helping further customer understanding of how demand response events work, and fully comprehending the expectations outlined in the terms and conditions they sign as Pilot Participants
- Appreciating the benefits to the entire community derived from demand response participation
- Educating customers via interviews with Pilot Participants who have experienced energy cost savings utilizing DemandLink devices
- Illustrating energy cost savings enjoyed by customers who have participated in Window Air Conditioner Rebate/Recycle offer

Incorporating lessons learned from the Pilot evaluation, in 2015, the Company intends to continue the shift in customer messaging begun in 2014 by further educating the target audience about: a) the Pilot's goals to reduce peak load; b) ensuring continued service reliability and sustainability; and c) the details surrounding participation in demand response events. Using messages focused on explaining the goal of ensuring reliability and potentially reducing the need for expensive investments in new infrastructure, the Company's outreach efforts will educate customers while making "save energy/save money" the secondary message.

Also for 2015, the Company will work toward increasing the engagement with the local communities through a number of ways. First, the Company's Jurisdiction teams will help facilitate conversations with the area's community leaders and any environmental groups that may be able to help raise awareness of the Pilot. Second, the Company will plan one or more local events utilizing National Grid's mobile events van at various locations within the Pilot footprint. This van would be parked at different public places on certain days during the summer to facilitate conversations with the customers and allow them to sign up on the spot.

The Company will also attempt to increase the extent of its email address list – currently only 54% compared to available phone numbers – in order to increase email messaging penetration. Email is a preferable medium because it is inexpensive and instant. Customers will be invited to submit their email addresses to continue to be notified of events after they register as well.

The marketing campaign will continue a dual track approach in 2015, customizing the focus of the messaging in order to differentiate Pilot Participants from Non-Participants. The Company will continue to develop and periodically distribute separate newsletters to both participants and eligible customers who aren't yet participants. The newsletters, including the Pilot FAQs, will be distributed primarily through both email and direct mail to the larger number of Non-Participant customers for whom we have no available email addresses. Examples of the two messaging approaches are outlined in the table below.

Target Audience	Tactic / Media	Marketing Communications Message
All Participants	Email Newsletter Update	*"Thanks for helping us control energy-related costs while ensuring the continued reliable delivery of electricity to your home or business."*
All Participants	Email Newsletter Update	*"How does Demand Response help our community, our economy and our environment?"*
All Non-Participants	Direct Mail Newsletter w/BRC order form	*"Check out our cool deals for summer cooling."* Focus on effectiveness of no-cost WiFiPCTs / Smart Plugs / Energy Assessments.
Residential Non-Participants	Direct Mail Newsletter w/AC Rebate Coupon	*"Time for a new high-efficiency Air Conditioner?"* Focus on reducing AC energy usage via AC Purchase Rebates, explain Energy Star ratings, offer free Recycling, &PCTs & Smart Plugs.
Residential Non-Participants	Direct Mail Post Card Series	*"Hi, Neighbor, check out what we're doing to reduce our community's energy consumption. And shrink my electric bill."* Present Pilot Participating customers as

		case histories using PCTs / Smart Plugs / AC Rebates / Energy Assessments.
Commercial Non-Participants	Direct Mail Post Card Series	*"Check out what our business is doing to reduce our energy costs. And shrink our electric bill."* Present Pilot Participating commercial customer as case histories using PCTs / Smart Plugs / AC Rebates / Energy Assessments.

As stated earlier in this Report, the Pilot is still challenged in reaching the Pilot's small commercial customer segment. To overcome the obstacles experienced to date, the Company will focus on identifying and reaching out to the decision-makers of the businesses where they are not immediately available, such as property or business owners not located at the Pilot property. The Company will discuss a commercial customer-specific effort with its Jurisdiction team to better identify key targets to best engage the small commercial customers in the Pilot area.

Coordination with OER Solarize Initiative

In beginning of 2014, the RI Office of Energy Resources (OER) engaged the Company to manage an analysis of solar DG as a provider of peak load relief. The Company hired Peregrine Energy Group to perform the analysis and prepare recommendations for a demonstration project that the OER would administer in the same area as the Company's Pilot. The result was a Solarize initiative for Tiverton and Little Compton to be implemented in 2015 through which residents and businesses can participate to install solar on their rooftops.

The Company recognizes that the existence of a Solarize initiative in the Pilot area could provide additional load relief during peak hours that could potentially reduce the amount of load relief needed through the Pilot. Therefore, an effort will be made to cross-promote the programs as much as possible. Customers will already be required to schedule their no-cost home energy assessment in order to participate in the Solarize initiative, but through co-marketing and possibly intermingling incentives further, the Company and the OER hope to entice customers to participate in both the Solarize initiative and the DemandLink Pilot.

Retention

In 2014, the Demand Link Pilot used a two-pronged messaging approach. Communications focused on recruiting customers to become participants were sent newsletters that urged Pilot area residents to "LINKUP" with neighbors. The Company's experience with participants is underscored by the delivery of a "DemandLink UPDATE" newsletter designed to support continuing communication with customers after they become participants. Examples of Pilot participant outreach include reminding customers who they should call when they have a problem, or providing easy-to-follow

steps to help them set up their wi-fi thermostat or plug load devices and participate in DR events.

The Company plans to continue sending customized communications to participants designed to perpetuate their interest in the program, and encourage their continued participation in future demand response events. First, the Company plans to continue distributing the FAQs and welcome letter documents developed in late 2013 to all new participants upon registration. Second, the Company will develop an ongoing email communication campaign for Pilot participants. The e-newsletters described in the previous section will be part of this communications plan as well. The Company will also explore the possibility of holding an informational session by phone or webinar, where participants can ask questions and voice feedback.

In addition to these concerted efforts, the Company's 2015 marketing plan will indirectly strengthen participant understanding and awareness of all Pilot components by educating customers more about the program before they sign up. Through similar refinement of demand response events processes, such as standardizing planned communications associated with events, participants will quickly learn what to expect each time.

Demand Response

2015 is the second year of planned DR events in the Pilot. The Company will utilize the processes developed and lessons learned from events in 2013 and 2014 to formally call events based on load conditions on the affected feeders. With the planned outreach, participants should be aware of the Company's expectations and their options in participating in demand response before events are triggered. Data from events will be sent to Opinion Dynamics Corporation for the formal evaluation.

While it is impossible to predict when demand response events will occur very far in advance, the structure will be somewhat standardized. When a demand response event is triggered, customers will receive a notice in real time. Central AC units will have their set points raised by 1-3 degrees. This is to ensure that temperatures in homes do not increase to uncomfortable levels while also randomizing the points in time at which any given number of units cycle on or off. As described in the 2014 implementation experience section of this Report, window AC units will turn off for the duration of the event and as a result, the Company will test different event structures to try to maximize the sustained load relief and maintain customer comfort. For example, the Company may test grouping customers into staggered one or two-hour events that together cover a four-hour period. Groups of central AC participants may also be triggered at different times to ensure that load reduction is constant. Demand response events will be two to four hours in duration and may occur multiple days in a row. All demand response events will also be voluntary in that customers will have the option to opt out at any time. Customers who exercise this opt-out option will forfeit their annual bill credit.

The process for triggering DR events will be similar to what it was in 2014. When the threshold load conditions are met, the distribution planner will notify the Pilot's project manager that a DR event is needed and the project manager will notify the DR event manager to schedule and deploy the event. Once the event is scheduled, the event will be automatically initiated through wi-fi at the designated time and will terminate once the desired duration has been reached.

The Company expects to automate some or all of this process as the Pilot progresses and budgets allow. Specifically in 2015, the Company will work with a third-party firm to pull all the thermostat and plug load data automatically so that it can be sent to the evaluation contractor in bulk in a timely manner.

Funding Plan

As proposed in prior SRP Reports, the Company will submit an updated budget annually for approval. The Company is proposing to fund the Pilot in 2015 through a mixture of leveraged EE funds, and the additional SRP funds requested as part of this 2015 SRP Report. Similar to the proposals in previous SRP Reports, the Company is proposing to collect the additional funds needed for the Pilot by rolling the SRP budget into the existing EE program charge on customer's bills, which is detailed in Table S-1.

Six-Year Budget

The budget below reflects changes to the2015 budget from what was projected in the 2014 SRP Report primarily in the Evaluation and STAT categories. The amount included in the Pilot budget is exclusive of the incentive offered through the EE program, for which the customer will still be eligible in addition to the Pilot's incentives. The increase in the Evaluation budget is primarily due to 2015 being the first year in which the evaluation is conducting research on both the demand response and EE impact on the load in addition to the process tasks. More information on the Pilot's evaluation can be found later in this Report.

The increase in the STAT budget is due to the Company's decision to hire an independent firm to conduct and manage the DR events for the pilot. While it is more expensive to engage this external firm, the Company believes the quality of the administration of the DR events will be improved beyond what the Company would be able to provide on its own and it will streamline the process for managing events in which multiple thermostat manufacturers' products are present. This would create a better experience for customers and less administrative work for both the Company and the evaluation contractor. Administration costs have been reduced where they otherwise would have increased for 2015 to reflect this change.

The incentive budget is similar to previous projections despite the potential for collaboration with the EnergyWise program wi-fi thermostat offering. Because at the time of this writing the wi-fi thermostat models are still being considered, the proposed Pilot budget for 2015 includes estimated costs for the thermostats as if they were still being completely funded through this Pilot to ensure that Pilot customers can be served throughout the year. In the event that the Company is able to partner with the statewide programs' offering, actual costs may be reduced.

Please refer to Appendix 5 for a more detailed breakdown of this Pilot's costs.

Table S-3
National Grid
System Reliability Procurement - Tiverton/Little Compton
Annual Budgets and Actual Costs
$(000)

	Program Planning & Administration	Marketing	Rebates and Other Customer Incentives	Sales, Technical Assistance & Training	Evaluation & Market Research	Total
2012	$2.6	$24.7	$32.5	$2.0	$25.1	$86.8
2013	$67.9	$77.1	$102.0	$1.4	$90.7	$339.0
2014	$70.3	$75.0	$88.6	$13.6	$120.0	$367.5
2015	$50.0	$75.0	$133.4	$104.8	$150.0	$513.2
2016	$50.0	$75.0	$105.7	$105.9	$100.0	$436.5
2017	$50.0	$75.0	$108.1	$106.9	$100.0	$440.0
Total	**$290.8**	**$401.8**	**$570.2**	**$334.4**	**$585.7**	**$2,183.0**

Notes:
(1) The 2015 System Reliability Procurement Report seeks approval only for 2015 funds. Future projections over the life of the Tiverton/Little Compton pilot are estimates subject to change.
(2) The annual totals in this table represent only the forecasted funds necessary to run the Tiverton/Little Compton pilot. They do not include costs associated with focused energy efficiency or with SRP participant costs.
(3) All amounts shown are in $current year.
(4) 2012 and 2013 numbers have been updated to reflect year end data. 2014 numbers have been updated to reflect year end projectsions

Evaluation

The Company continues to work with Opinion Dynamics Corporation (ODC) on the evaluation of the Pilot. The objectives for 2014 were focused primarily on marketing effectiveness and energy efficiency impacts but also included some preliminary activities to prepare for the evaluation of demand response impacts. The major evaluation objectives for 2014 were (1) updating the marketing effectiveness assessment to include full year 2012 and 2013 activities, (2) assessing the incremental energy efficiency impact of 2012-2013, (3) conducting preliminary work on DR impact assessment (4) developing an evaluation plan for 2015.

The Marketing Effectiveness memo (1) suggested that the results of 2013 indicate that the pilot's marketing campaign is increasing awareness of the offers and encouraging

participation. However, it also states that a ramp up period may be required to achieve those results. Additionally, data from non-participant focus groups indicated that there is still some confusion about the pilot among residents and some skepticism of the smart plugs' ability to provide real savings. This memo can be found in Appendix 4 of this Report.

The first Focused EE Impact Report (2) was delivered in May and its goal was to determine the extent to which Pilot created incremental EE savings in the pilot area that otherwise would not have been achieved. The results showed that the Pilot is responsible for an approximately 53% increase in EE participation in the area based on 2012 and 2013 data. This was derived through participant surveys and an analysis of EnergyWise program participation in both the Pilot communities and a few comparison towns. The participant surveys were aimed at determining which marketing or program attributes most influenced customers' decisions to participate in EnergyWise.

Deliverables associated with the DR impact assessment (3) are targeted for Q1 2015, but work has been on-going throughout 2014. This information will be refined with the data from the 2014 DR events held in July, August and September.

An evaluation plan and associated budget estimate for 2015 was created in September of 2014. There are many tasks scheduled for 2015 to evaluate both the process and impacts of the Pilot. The major 2015 deliverables are summarized in the chart below. The below deliverables are focused primarily on 2014 activities. In addition to these, the evaluation will complete work on 2015 activities that will inform deliverables for 2016.

Deliverable	Due Date	Description of Work
Residential Leads Analysis Memo	January 2015	Assesses why some customers express interest in the Pilot but do not ultimately participate
2014 Demand Response Impacts	February 2015	Analysis of pilot-related DR impacts based on 2014 data
2014 Annual Evaluation Report	April 2015	Process and Impact findings update based on 2012 – 2014 data
2016 Evaluation Plan & Budget	August 2015	Description of tasks for 2016 and estimated costs

The budget for the 2015 evaluation is included in the benefit cost analysis for the Pilot shown in Appendix 3. Wherever this evaluation's activities overlap with statewide EE objectives, the Company is proposing to fund those activities through the statewide EE pilots budget to maximize the cost efficiency.

Valuation of Deferral and Revenue Requirements

The Company has already deferred the original investment to add a third feeder to the Tiverton substation from 2014 to 2015 and has determined that it will be able to defer this investment for at least one more year to 2016. If the pilot can continue to recruit enough customers and provide sustained load relief during peak hours through 2017, it will be able to defer this investment through 2018. This would allow the Company to prioritize other investment projects without NWA potential. The value from deferral of the proposed wires solution is summarized below. The Company estimated thirty years of revenue requirement from the investment entering service in 2014. The Company proceeded to move the investment one year ahead and calculate the revenue requirement through the next twenty-nine years and continuing for years 2015, 2016 and 2017, respectively, and took the difference between the values from one year to the next. The result of a four-year deferral is the set of net present value benefits as shown in the table below. The Company converted the $2,933,296 estimate (which is in 2014 dollars) to a net present value, which is represented by the $2,610,498 in the "Base Investment" column below. The amounts in the "NPV Annual Value" row below represent the deferral savings achieved in each year by avoiding the wires solution for another year.

Year		2014	2015	2016	2017
	Base Investment	1 Yr Delay	2 Yr Delay	3 Yr Delay	4 Yr Delay
NPV of Revenue Requirement	$2,610,498	$2,436,310	$2,264,828	$2,105,416	$1,957,225
NPV Annual Value		$174,188	$171,482	$159,412	$148,191
NPV Cumulative savings		$174,188	$345,670	$505,081	$653,273

Updated Benefit/Cost Analysis of NWA Solution

The Company is proposing to use the same framework for cost-effectiveness in this Report as that which was used in the 2012 - 2014 SRP Reports.[9] Inputs to the benefit cost analysis from the 2014 SRP Report have been updated to reflect strategic, implementation changes for 2015-2017. 2012 and 2013 figures were updated to reflect actual data from the EE impact evaluation and 2014 figures were updated to reflect year end projections based on actual data available.

[9]For a detailed descriptions of the cost and benefits associated with the cost-effectiveness framework, see 2012 SRP Report - Supplement, February 1, 2012, Docket 4296.

Table S-2
System Reliability Procurement - Tiverton/Little Compton
Summary of Cost Effectiveness ($000)

	2012	2013	2014	2015	2016	2017	Overall
Benefits	**$193.6**	**$1,566.5**	**$990.3**	**$1,457.4**	**$1,426.6**	**$1,477.8**	**$7,112.2**
Focused Energy Efficiency Benefits[1]	$104.6	$791.6	$543.0	$734.3	$767.6	$799.0	$3,740.0
SRP Energy Efficiency Benefits[2]	$89.0	$774.9	$264.0	$539.5	$484.8	$511.9	$2,664.2
Demand Reduction Benefits[3]	$0.0	$0.0	$9.1	$12.1	$14.8	$18.8	$54.8
Deferral Benefits[4]	$0.0	$0.0	$174.2	$171.5	$159.4	$148.2	$653.3
Costs	**$156.2**	**$804.2**	**$608.2**	**$1,009.7**	**$933.0**	**$936.5**	**$4,447.7**
Focused Energy Efficiency Costs[5]	$69.4	$462.9	$239.6	$495.4	$495.4	$495.4	$2,258.1
System Reliability Procurement Costs[6,7]	$86.8	$341.3	$368.6	$514.3	$437.6	$441.1	$2,189.6
Benefit/Cost Ratio	**1.24**	**1.95**	**1.63**	**1.44**	**1.53**	**1.58**	**1.60**

Notes:
(1) Focused EE benefits in each year include the NPV (over the life of those measures) of all TRC benefits associated with EE measures installed in that year that are being focused to the Tiverton/Little Compton area.
(2) SRP EE benefits include all TRC benefits associated with EE measures installed in each year that would not have been installed as part of the statewide EE programs.
(3) DR benefits represent the energy and capacity benefits associated with the demand reduction events projected to occur in each year.
(4) Deferral benefits are the net present value benefits associated with deferring the wires project (substation upgrade) for a given year in $2014.
(5) EE costs include PP&A, Marketing, STAT, Incentives, Evaluation and Participant Costs associated with statewide levels of EE that have been focused to the Tiverton/Little Compton area. For the purposes of this analysis, they are derived from the planned ¢/Lifetime kWh in Attachment 5, Table E-5 of each year's EEPP in the SF EnergyWise and Small Business Direct Install programs. These are the programs through which measures in this SRP pilot will be offered.
(6) SRP costs represent the SRPP budget which is separate from the statewide EEPP budget, as well as SRP participant costs. The SRP budget includes PP&A, Marketing, Incentives, STAT and Evaluation.
(7) All costs and benefits are in $current year except for deferral benefits.
(8) This SRP report seeks approval only for the 2015 System Reliability Procurement Costs. Future projections over the life of the Tiverton/Little Compton pilot are estimates subject to change.
(9) 2012-2013 numbers have been updated to reflect year end data. 2014 numbers reflect year end projections.

The Demand Link Pilot remains cost effective over its life, with a benefit/cost ratio of 1.60, as well as within each year, as shown in Table S-2 above. The benefit cost ratio for 2015 is 1.44.

There are a number of factors affecting the benefit cost ratio in 2015 that have also been carried out into future years. First, some costs have increased as described in the Six Year Budget section of this Report.

Second, the Company updates its assumptions for average savings per participant for the EnergyWise and Small Business Direct Install program each year to consider actual savings achieved through these programs within the pilot area. As a result of this year's update, the kWh savings in EnergyWise more than doubled, increasing the benefits in the pilot through 2017.

It is still assumed that measures in future years will mimic those being used in the current planning year and that participation will remain constant over the life of the Pilot based

on what is planned for 2015. This assumption may change in future annual SRP Reports based on lessons learned from implementation, actual results, or other factors as the Company evaluates the progress of the Pilot.

The Pilot continues to focus both EE costs, EE savings and EE benefits from the EnergyWise and Small Business Direct Install programs for years 2015-2017, which can be seen in Table S-2 of Appendix 3. The focused EE program cost and savings inputs have been updated since the 2014 SRP Report to reflect the program per-kWh costs and program savings assumptions respectively from the 2015 EEPP. The cost per kWh for the Small Business and EnergyWise programs increased by approximately 1 cent from 2014 to 2015, lowering the BC ratio of the Pilot. The focused program savings are shown in Table S-4 of Appendix 3.

The Company updated the SRP costs and SRP EE benefits for this Report to reflect changes in the Pilot's measure offerings. This SRP Report is requesting approval for recovery of costs for 2015 that have been refined for this SRP Report. The Company continues to estimate costs for future years and they are subject to change in future annual SRP Reports.

All costs and benefits in this analysis are in current year dollars, meaning that the avoided costs are inflated for each year. The savings associated with this Pilot are categorized in the same way as the benefits. They are shown in Table S-4 of Appendix 3. As projected, this Pilot will create over $7 million in benefits in the Tiverton/Little Compton area over its six-year lifetime. For each $1 invested, this Pilot will create $1.60 of economic benefits over the lifetime of the six-year investment. Most importantly, however, it will provide the load relief needed to defer the construction of a new substation through 2017 as shown in Table S-7 below.

Table S-7
System Reliability Procurement - Tiverton/Little Compton
Potential for Wires Project Deferral at Year Begin

	2012	2013	2014	2015	2016	2017	2018
Cumulative Annual kW from Energy Efficiency			**314**	**463**	**586**	**722**	**858**
Focused Energy Efficiency			108	155	189	236	283
SRP Energy Efficiency			206	308	397	486	575
Cumulative Annual kW from Demand Reduction			**124**	**140**	**174**	**216**	**258**
Thermostats - Residential			114	119	147	176	204
Thermostats - C&I			5	10	16	21	27
Smart Plugs			6	10	11	19	27
Total Cumulative kW Reduction			**438**	**603**	**760**	**938**	**1,115**
Total Cumulative kW Reduction Needed to Defer Wires Project			150	390	630	860	1,000
% Achieved			292%	155%	121%	109%	112%

Notes:
(1) All kW amounts are Summer kW and are cumulative.
(2) This table shows the number of kW have been either installed through EE or have become available to reduce through demand reduction by the end of the previous year to therefore contribute to the deferral of the wires investment in the current year.
(3) kW in Reserve acts as insurance against customers overriding the demand reduction themselves, so that the required reduction is still met.
(4) 2012 -2013 amounts have been updated to reflect year end data. 2014 amounts have been updated to reflect year end projections.

The Parties respectfully request the PUC approve this Stipulation and Settlement as a final resolution of all issues in this proceeding.

Respectfully submitted,

THE NARRAGANSETT ELECTRIC COMPANY D/B/A NATIONAL GRID

10/28/2014

By its Attorney Date
Jennifer Brooks Hutchinson, Esq.

RHODE ISLAND DIVISION OF PUBLIC UTILITIES AND CARRIERS

By its Attorney Date
Jon Hagopian, Senior Legal Counsel

THE ENERGY COUNCIL OF RHODE ISLAND

Douglas W Gablinske 10/27/2014

By its Executive Director Date
Douglas Gablinske

ENVIRONMENT NORTHEAST

10/27/2014

Mark LeBel, Staff Attorney Date

THE RHODE ISLAND ENERGY EFFICIENCY AND RESOURCES MANAGEMENT COUNCIL

OCT. 28, 2014

By its Attorney
R. Daniel Prentiss

Date

PEOPLE'S POWER & LIGHT

By its Executive Director
Larry Chretien

10/28/14
Date

APPENDICES

Appendices

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Load Growth Forecasts

Appendix 2
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Appendix 3
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APPENDIX 1

Appendix 1 – Load Growth Forecasts

Year One Weather-Adjustment and Multi-Year Annual Growth Percentages

County and Townships	2013 Weather-Adjustments (1, 2)			Annual Growth Rates (3)						
	for 50/50	for 90/10	for 95/5	2014	2015	2016	2017	2018	5-yr avg. '19 to '23	5-yr avg. '24 to '28
Rhode Island										
Bristol_RI	93.8%	100.4%	103.0%	1.1%	1.6%	0.8%	0.5%	0.0%	0.6%	0.8%
Barrington				1.1%	1.5%	0.8%	0.4%	0.0%	0.6%	0.8%
Bristol				1.5%	1.9%	1.0%	0.7%	0.2%	0.8%	0.9%
Warren, RI				0.4%	0.9%	0.3%	0.0%	-0.4%	0.4%	0.7%
Kent	93.8%	100.4%	103.0%	1.4%	2.0%	1.2%	0.7%	0.4%	0.6%	0.7%
Coventry				1.6%	2.2%	1.4%	0.9%	0.5%	0.7%	0.8%
East Greenwich				-0.1%	0.7%	0.2%	-0.1%	-0.4%	0.1%	0.5%
Warwick, RI				1.3%	1.9%	1.2%	0.7%	0.3%	0.6%	0.7%
West Greenwich				2.7%	3.1%	2.1%	1.5%	1.1%	1.0%	0.9%
West Warwick				1.5%	2.0%	1.3%	0.8%	0.4%	0.6%	0.8%
Newport	93.8%	100.4%	103.0%	0.9%	1.9%	1.1%	0.6%	0.2%	0.5%	0.7%
Jamestown				1.3%	2.2%	1.3%	0.9%	0.4%	0.6%	0.7%
Little Compton				1.5%	2.4%	1.5%	1.0%	0.6%	0.7%	0.8%
Middletown				1.0%	1.9%	1.1%	0.7%	0.3%	0.5%	0.7%
Newport				0.6%	1.6%	0.8%	0.4%	0.1%	0.4%	0.6%
Portsmouth				1.2%	2.1%	1.3%	0.8%	0.4%	0.6%	0.7%
Tiverton				1.3%	2.3%	1.4%	0.9%	0.5%	0.6%	0.7%
Providence	93.8%	100.4%	103.0%	1.4%	2.0%	1.2%	0.8%	0.5%	0.6%	0.7%
Burrillville				-0.6%	0.3%	-0.2%	-0.4%	-0.5%	-0.1%	0.4%
Central Falls				0.6%	1.4%	0.7%	0.3%	0.1%	0.3%	0.6%
Cranston				0.8%	1.6%	0.9%	0.5%	0.2%	0.4%	0.6%
Cumberland				0.7%	1.4%	0.8%	0.4%	0.1%	0.4%	0.6%
East Providence				2.0%	2.6%	1.7%	1.2%	0.8%	0.8%	0.8%
Foster				1.7%	2.3%	1.5%	1.0%	0.7%	0.7%	0.8%
Glocester				1.9%	2.5%	1.6%	1.1%	0.8%	0.8%	0.8%
Johnston				1.7%	2.3%	1.5%	1.0%	0.7%	0.7%	0.8%
Lincoln				1.3%	2.0%	1.2%	0.8%	0.5%	0.6%	0.7%
North Providence				1.3%	1.9%	1.2%	0.8%	0.4%	0.6%	0.7%
North Smithfield				1.5%	2.1%	1.3%	0.9%	0.5%	0.6%	0.7%
Pawtucket				-0.1%	0.8%	0.2%	-0.1%	-0.3%	0.1%	0.5%
Providence				1.8%	2.4%	1.5%	1.0%	0.7%	0.7%	0.8%
Scituate, RI				1.8%	2.4%	1.6%	1.1%	0.7%	0.7%	0.8%
Smithfield				2.0%	2.6%	1.7%	1.2%	0.8%	0.8%	0.8%
Woonsocket				1.8%	2.4%	1.5%	1.0%	0.7%	0.7%	0.8%
Washington	93.8%	100.4%	103.0%	1.0%	1.5%	0.8%	0.3%	0.0%	0.3%	0.5%
Charlestown, RI				1.1%	1.6%	0.9%	0.4%	0.0%	0.4%	0.6%
Exeter				1.1%	1.5%	0.9%	0.4%	0.0%	0.4%	0.6%
Hopkinton				1.4%	1.8%	1.1%	0.6%	0.2%	0.5%	0.6%
Narragansett				0.8%	1.3%	0.7%	0.2%	-0.1%	0.3%	0.5%
North Kingstown				0.9%	1.4%	0.7%	0.3%	0.0%	0.3%	0.5%
Richmond				-0.1%	0.5%	0.0%	-0.4%	-0.6%	0.0%	0.4%
South Kingstown				1.5%	1.9%	1.2%	0.6%	0.3%	0.5%	0.6%
Westerly				1.0%	1.5%	0.8%	0.3%	0.0%	0.3%	0.5%

APPENDIX 2

Appendix 2 – Detailed Breakdown of Annual Budgets

Rhode Island Summer Peaks (Actuals and 50/50, 90/10, & 95/5 Weather-Adjusted Cases)

after Energy Efficiency Reductions

YEAR	Actuals (MW)	Actuals (% Grwth)	Normal 50-50 (MW)	Normal 50-50 (% Grwth)	Extreme 90-10 (MW)	Extreme 90-10 (% Grwth)	Extreme 95-5 (MW)	Extreme 95-5 (% Grwth)	Weighted Temperature-Humidity Index (WTHI) ACTUAL	NORMAL	EXT 90/10	EXT 95/5
2003	1,670		1,763		1,893		1,943		80.1	82.1	84.8	85.9
2004	1,628	-2.5%	1,801	2.1%	1,930	2.0%	1,980	1.9%	78.5	82.1	84.8	85.9
2005	1,805	10.8%	1,759	-2.3%	1,889	-2.2%	1,938	-2.1%	83.1	82.1	84.8	85.9
2006	1,949	8.0%	1,770	0.6%	1,900	0.6%	1,949	0.6%	85.9	82.1	84.8	85.9
2007	1,777	-8.8%	1,834	3.6%	1,964	3.4%	2,013	3.3%	80.9	82.1	84.8	85.9
2008	1,824	2.6%	1,784	-2.7%	1,914	-2.6%	1,963	-2.5%	82.9	82.1	84.8	85.9
2009	1,713	-6.1%	1,797	0.7%	1,927	0.7%	1,976	0.7%	80.3	82.1	84.8	85.9
2010	1,872	9.3%	1,757	-2.2%	1,887	-2.1%	1,936	-2.0%	84.5	82.1	84.8	85.9
2011	1,935	3.4%	1,807	2.8%	1,937	2.7%	1,987	2.6%	84.8	82.1	84.8	85.9
2012	1,892	-2.2%	1,827	1.1%	1,957	1.0%	2,007	1.0%	83.5	82.1	84.8	85.9
2013	1,956	3.4%	1,835	0.4%	1,965	0.4%	2,015	0.4%	84.7	82.1	84.8	85.9
2014			1,858	1.2%	1,990	1.3%	2,040	1.3%		82.1	84.8	85.9
2015			1,892	1.8%	2,027	1.9%	2,079	1.9%		82.1	84.8	85.9
2016			1,913	1.1%	2,051	1.1%	2,103	1.2%		82.1	84.8	85.9
2017			1,925	0.7%	2,065	0.7%	2,118	0.7%		82.1	84.8	85.9
2018			1,931	0.3%	2,072	0.4%	2,126	0.4%		82.1	84.8	85.9
2019			1,937	0.3%	2,079	0.3%	2,133	0.3%		82.1	84.8	85.9
2020			1,946	0.5%	2,089	0.5%	2,144	0.5%		82.1	84.8	85.9
2021			1,958	0.6%	2,102	0.6%	2,158	0.6%		82.1	84.8	85.9
2022			1,970	0.6%	2,116	0.7%	2,172	0.7%		82.1	84.8	85.9
2023			1,983	0.6%	2,130	0.7%	2,186	0.7%		82.1	84.8	85.9
2024			1,995	0.6%	2,144	0.7%	2,201	0.7%		82.1	84.8	85.9
2025			2,009	0.7%	2,158	0.7%	2,215	0.7%		82.1	84.8	85.9
2026			2,022	0.7%	2,173	0.7%	2,231	0.7%		82.1	84.8	85.9
2027			2,037	0.7%	2,189	0.7%	2,247	0.7%		82.1	84.8	85.9
2028			2,052	0.8%	2,205	0.8%	2,264	0.8%		82.1	84.8	85.9
Compound Avg. 10 yr ('03 to '13)		1.6%		0.4%		0.4%		0.4%		WTHI coeff	47.4	
Compound Avg. 5 yr ('08 to '13)		1.4%		0.6%		0.5%		0.5%				
Compound Avg. 5 yr ('13 to '18)				1.0%		1.1%		1.1%				
Compound Avg. 10 yr ('13 to '23)				0.8%		0.8%		0.8%				
Compound Avg. 15 yr ('13 to '28)				0.7%		0.8%		0.8%				

	2012	2013	2014	2015	2016	2017	Total
PP&A	**$60,000**	**$50,000**	**$74,000**	**$50,000**	**$50,000**	**$50,000**	**$334,000**
Marketing	**$40,000**	**$77,000**	**$75,000**	**$75,000**	**$75,000**	**$75,000**	**$417,000**
Rebates	**$66,000**	**$94,625**	**$103,990**	**$133,393**	**$105,663**	**$108,096**	**$636,505**
PCT Rebates - Resi	$50,000	$16,250	$25,900	$14,500	$14,500	$14,500	$135,650
PCT Rebates - C&I	$16,000	$3,250	$1,850	$1,450	$1,450	$1,450	$25,450
PCT Rebates - Smart Plugs			$27,750	$20,300	$14,500	$14,500	$77,050
Smart Plug Rebates		$38,000	$12,240	$6,800	$6,800	$6,800	$70,640
AC Recycling Rebates	$0	$24,625	$4,000	$2,000	$2,000	$2,000	$34,625
AC Purchase Rebates	$0	$12,500	$4,250	$850	$850	$850	$19,300
LEDs			$28,000	$9,333	$9,333	$9,333	$56,000
HPWHs				$67,500	$45,000	$45,000	$157,500
Bill Credits	**$5,000**	**$7,000**	**$12,738**	**$10,660**	**$11,230**	**$13,662**	**$60,290**
Resi Central AC Bill Credit	$5,000	$7,000	$8,200	$5,240	$6,240	$7,240	$38,920
C&I PCT Bill Credit		$0	$1,440	$1,120	$1,520	$1,920	$6,000
Window AC Bill Credit			$3,098	$4,300	$3,470	$4,502	$15,370
STAT	**$25,000**	**$1,910**	**$13,480**	**$104,800**	**$105,850**	**$106,900**	**$357,940**
Evaluation	**$25,000**	**$100,000**	**$120,000**	**$150,000**	**$100,000**	**$100,000**	**$595,000**
Substation equipment cost	**$0**	**$13,000**	**$0**	**$0**	**$0**	**$0**	**$13,000**
Total	**$221,000**	**$343,535**	**$399,208**	**$513,193**	**$436,513**	**$439,996**	**$2,353,445**

APPENDIX 3

Appendix 3 – 2013 SRP Benefit Cost Analysis Tables

Table S-1
National Grid
System Reliability Procurement - Tiverton/Little Compton
Funding Sources
$(000)

	2012	2013	2014	2015	2016	2017	Total
(1) **Projected Budget:**	$221.0	$343.5	$399.2	$513.2	$436.5	$440.0	$2,353.4
(2) **Projected Year-End Fund Balance and Interest:**			$57.2	-$55.4			
(3) **Customer Funding Required:**	$221.0	$253.2	$342.0	$568.6	$436.5	$440.0	$2,261.4
(4) **Forecasted kWh Sales:**	6,459,688,660	7,853,900,593	7,855,718,845	7,694,501,891	7,710,864,701	7,665,691,155	45,240,365,846
(5) **Additional SRP Funding Needed per kWh:**	$0.0000342	$0.0000322	$0.0000435	$0.0000739	$0.0000566	$0.0000574	$0.0000500
(6) **Proposed Energy Efficiency Program charge in EEPP**	$0.0058900	$0.0086189	$0.0089637	$0.0093500			
(7) **Proposed Total Energy Efficiency Program charge in EEPP**	$0.0059242	$0.0086511	$0.0090072	$0.0094239			
(8) **Proposed Total Energy Efficiency Program charge w/ Uncollectible Recovery**	$0.0059242	$0.0086511	$0.0091100	$0.0095300			

Notes
(1)Projected Budget includes only additional funds for SRP. It does not include costs associated with focused energy efficiency.
(2) Proposed Total Energy Efficiency Program charge is the sum of the "Additional SRP Funding Needed per kWh" and "Proposed Energy Efficiency Program charge in EEPP" lines.
(3) The 2015 System Reliability Procurement Report seeks approval only for 2013 funds. Future projections over the life of the Tiverton/Little Compton pilot are estimates subject to change.
(4) All dollar amounts shown are in $current year.
(5) The Forecasted kWh Sales represent 12 months of sales except for 2012 which represents 10 months of sales due to the timing of the filing.

Table S-2
System Reliability Procurement - Tiverton/Little Compton
Summary of Cost Effectiveness ($000)

	2012	2013	2014	2015	2016	2017	Overall
Benefits	**$193.6**	**$1,566.5**	**$990.3**	**$1,457.4**	**$1,426.6**	**$1,477.8**	**$7,112.2**
Focused Energy Efficiency Benefits[1]	$104.6	$791.6	$543.0	$734.3	$767.6	$799.0	$3,740.0
SRP Energy Efficiency Benefits[2]	$89.0	$774.9	$264.0	$539.5	$484.8	$511.9	$2,664.2
Demand Reduction Benefits[3]	$0.0	$0.0	$9.1	$12.1	$14.8	$18.8	$54.8
Deferral Benefits[4]	$0.0	$0.0	$174.2	$171.5	$159.4	$148.2	$653.3
Costs	**$156.2**	**$804.2**	**$608.2**	**$1,009.7**	**$933.0**	**$936.5**	**$4,447.7**
Focused Energy Efficiency Costs[5]	$69.4	$462.9	$239.6	$495.4	$495.4	$495.4	$2,258.1
System Reliability Procurement Costs[6,7]	$86.8	$341.3	$368.6	$514.3	$437.6	$441.1	$2,189.6
Benefit/Cost Ratio	**1.24**	**1.95**	**1.63**	**1.44**	**1.53**	**1.58**	**1.60**

Notes:

(1) Focused EE benefits in each year include the NPV (over the life of those measures) of all TRC benefits associated with EE measures installed in that year that are being focused to the Tiverton/Little Compton area.

(2) SRP EE benefits include all TRC benefits associated with EE measures installed in each year that would not have been installed as part of the statewide EE programs.

(3) DR benefits represent the energy and capacity benefits associated with the demand reduction events projected to occur in each year.

(4) Deferral benefits are the net present value benefits associated with deferring the wires project (substation upgrade) for a given year in $2014.

(5) EE costs include PP&A, Marketing, STAT, Incentives, Evaluation and Participant Costs associated with statewide levels of EE that have been focused to the Tiverton/Little Compton area. For the purposes of this analysis, they are derived from the planned ¢/Lifetime kWh in Attachment 5, Table E-5 of each year's EEPP in the SF EnergyWise and Small Business Direct Install programs. These are the programs through which measures in this SRP pilot will be offered.

(6) SRP costs represent the SRPP budget which is separate from the statewide EEPP budget, as well as SRP participant costs. The SRP budget includes PP&A, Marketing, Incentives, STAT and Evaluation.

(7) All costs and benefits are in $current year except for deferral benefits.

(8) This SRP report seeks approval only for the 2015 System Reliability Procurement Costs. Future projections over the life of the Tiverton/Little Compton pilot are estimates subject to change.

(9) 2012-2013 numbers have been updated to reflect year end data. 2014 numbers reflect year end projections.

Table S-3
National Grid
System Reliability Procurement - Tiverton/Little Compton
Annual Budgets and Actual Costs
$(000)

	Program Planning & Administration	Marketing	Rebates and Other Customer Incentives	Sales, Technical Assistance & Training	Evaluation & Market Research	Total
2012	$2.6	$24.7	$32.5	$2.0	$25.1	$86.8
2013	$67.9	$77.1	$102.0	$1.4	$90.7	$339.0
2014	$70.3	$75.0	$88.6	$13.6	$120.0	$367.5
2015	$50.0	$75.0	$133.4	$104.8	$150.0	$513.2
2016	$50.0	$75.0	$105.7	$105.9	$100.0	$436.5
2017	$50.0	$75.0	$108.1	$106.9	$100.0	$440.0
Total	**$290.8**	**$401.8**	**$570.2**	**$334.4**	**$585.7**	**$2,183.0**

Notes:
(1) The 2015 System Reliability Procurement Report seeks approval only for 2015 funds. Future projections over the life of the Tiverton/Little Compton pilot are estimates subject to change.
(2) The annual totals in this table represent only the forecasted funds necessary to run the Tiverton/Little Compton pilot. They do not include costs associated with focused energy efficiency or with SRP participant costs.
(3) All amounts shown are in $current year.
(4) 2012 and 2013 numbers have been updated to reflect year end data. 2014 numbers have been updated to reflect year end projectsions

Table S-4
System Reliability Procurement - Tiverton/Little Compton
Summary of kW, and kWh New Installs Per Year

			Capacity (kW)			Energy (MWh)	
			Summer	Winter	Lifetime	Maximum Annual	Lifetime
2012	EE	Energy Wise	9	19	64	129	989
		Small Business	4	2	43	7	76
		SRP	8	0	121	4	55
	Non-EE	Demand Response	20	0	0		
	Total		**40**	**21**	**228**	**139**	**1,119**
2013	EE	Energy Wise	93	248	592	548	4,644
		Small Business	2	0	28	1	12
		SRP	198	47	2,278	285	3,310
	Non-EE	Demand Response	85	0	85		
	Total		**378**	**295**	**2,982**	**833**	**7,967**
2014	EE	Energy Wise	38	111	731	135	2,601
		Small Business	9	5	101	48	519
		SRP	65	1	751	47	530
	Non-EE	Demand Response	35	0	35		
	Total		**148**	**117**	**1,619**	**230**	**3,650**
2015	EE	Energy Wise	34	101	661	251	4,833
		Small Business	13	7	135	64	692
		SRP	102	56	1,114	310	3,163
	Non-EE	Demand Response	34	0	34		
	Total		**183**	**164**	**1,944**	**626**	**8,688**
2016	EE	Energy Wise	34	101	661	251	4,833
		Small Business	13	7	135	64	692
		SRP	89	38	983	222	2,275
	Non-EE	Demand Response	42	0	42		
	Total		**178**	**145**	**1,821**	**537**	**7,801**
2017	EE	Energy Wise	34	101	661	251	4,833
		Small Business	13	7	135	64	692
		SRP	89	38	983	222	2,275
	Non-EE	Demand Response	42	0	42		
	Total		**178**	**145**	**1,821**	**537**	**7,801**
Grand Total			**1,105**	**887**	**10,415**	**2,902**	**37,026**

Notes:
(1) The "EE" savings include both Focused Energy Efficiency savings and SRP Energy Efficiency Savings.
(2) Measures unique to SRP and not offered in the same way through the statewide EE programs are listed as a separate line item (SRP) under the EE heading. Measures part of the focused EE are listed in the EnergyWise and Small Business program lines.
(3) Savings in this table are not cumulative. Each year shows savings from measures that will have been installed within that year.
(4) 2012 numbers have been updated to reflect year end data and 2013 numbers have been updated to reflect year end projections
(5) Demand Response estimated kWh savings are shown on table S-6.

Table S-5
System Reliability Procurement - Tiverton/Little Compton
Summary of Incremental Benefits By Year

				Capacity ($)						Energy ($)						Non-Electric ($)	
			Total Benefits	Summer Generation	Winter Generation	Transmission	MDC/ Deferral(3)	DRIPE	Winter Peak	Winter Off-Peak	Summer Peak	Summer Off-Peak	DRIPE	Resource	Non - Resource
2012	EE	Energy Wise	84,618	1,914	0	1,442	6,061	440	16,990	21,298	10,676	11,125	7,387	0	7,286
		Small Business	19,962	1,638	0	943	3,962	455	2,531	615	1,518	302	560	0	7,439
		SRP	89,031	6,590	0	2,638	11,082	1,224	0	0	2,926	873	316	63,381	0
	Non-EE	Demand Reduction	0	0	0	0	0	0	0	0	0	0	0	0	0
		Deferral	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total	**193,611**	**10,143**	**0**	**5,023**	**21,105**	**2,119**	**19,521**	**21,912**	**15,120**	**12,300**	**8,263**	**63,381**	**14,725**
2013	EE	Energy Wise	440,293	18,158	0	13,624	57,245	4,480	81,741	105,650	53,329	51,785	32,961	21,319	0
		Small Business	351,289	45,980	0	21,224	89,179	11,654	84,675	20,430	50,364	10,075	17,708	0	0
		SRP	774,947	67,287	0	30,582	128,499	14,693	114	486	48,156	15,014	6,447	463,670	0
	Non-EE	Demand Reduction	0	0	0	0	0	0	0	0	0	0	0	0	0
		Deferral	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total	**1,566,529**	**131,425**	**0**	**65,431**	**274,923**	**30,827**	**166,530**	**126,566**	**151,849**	**76,874**	**57,116**	**484,990**	**0**
2014	EE	Energy Wise	489,759	84,140	0	29,438	0	3,136	49,638	65,958	25,942	29,454	13,151	154,089	34,813
		Small Business	53,232	8,695	0	4,100	0	772	17,780	4,494	8,509	1,990	6,892	0	1
		SRP	264,015	67,938	0	30,464	0	5,122	41	181	23,553	8,397	5,784	122,534	0
	Non-EE	Demand Reduction	9,067	3,242	0	5,738	0	0	0	0	88	0	0	0	0
		Deferral	174,188	0	0	0	174,188	0	0	0	0	0	0	0	0
		Total	**990,262**	**164,015**	**0**	**69,740**	**174,188**	**9,030**	**67,459**	**70,632**	**58,091**	**39,842**	**25,828**	**276,624**	**34,814**
2015	EE	Energy Wise	660,549	82,446	0	27,227	0	2,946	96,250	127,562	50,716	57,226	21,203	160,159	34,813
		Small Business	73,750	13,550	0	5,593	0	1,070	24,576	6,218	11,981	2,786	7,976	0	2
		SRP	539,486	113,151	0	46,262	0	8,377	65,174	49,227	53,386	30,974	30,995	141,940	0
	Non-EE	Demand Reduction	12,097	4,326	0	7,309	0	0	0	0	462	0	0	0	0
		Deferral	171,482	0	0	0	171,482	0	0	0	0	0	0	0	0
		Total	**1,457,363**	**213,472**	**0**	**86,391**	**171,482**	**12,393**	**186,001**	**183,007**	**116,544**	**90,986**	**60,174**	**302,098**	**34,814**
2016	EE	Energy Wise	689,509	89,055	0	27,857	0	3,091	100,643	132,913	53,349	59,868	21,271	166,648	34,813
		Small Business	78,055	15,581	0	5,723	0	1,129	25,563	6,469	12,657	2,930	8,003	0	2
		SRP	484,832	115,062	0	41,782	0	7,817	45,235	34,213	45,835	24,635	22,439	147,814	0
	Non-EE	Demand Reduction	14,794	4,942	0	9,277	0	0	0	0	575	0	0	0	0
		Deferral	159,412	0	0	0	159,412	0	0	0	0	0	0	0	0
		Total	**1,426,602**	**224,640**	**0**	**84,639**	**159,412**	**12,037**	**171,440**	**173,595**	**112,417**	**87,433**	**51,713**	**314,462**	**34,814**
2017	EE	Energy Wise	717,328	96,027	0	28,502	0	3,169	105,660	138,941	56,185	62,743	18,108	173,179	34,813
		Small Business	81,638	17,735	0	5,855	0	1,158	26,807	6,773	13,401	3,091	6,817	0	2
		SRP	511,861	130,442	0	42,749	0	8,106	47,403	35,826	48,470	25,996	19,198	153,671	0
	Non-EE	Demand Reduction	18,802	6,708	0	11,333	0	0	0	0	762	0	0	0	0
		Deferral	148,191	0	0	0	148,191	0	0	0	0	0	0	0	0
		Total	**1,477,821**	**250,911**	**0**	**88,439**	**148,191**	**12,433**	**179,870**	**181,541**	**118,817**	**91,830**	**44,124**	**326,849**	**34,814**
Grand Total			**7,112,189**	**994,606**	**0**	**399,663**	**949,300**	**78,839**	**790,820**	**757,254**	**572,838**	**399,266**	**247,218**	**1,768,404**	**153,981**

Notes:
(1) The "EE" benefits include both Focused Energy Efficiency benefits and SRP Energy Efficiency benefits.
(2) Measures unique to SRP are listed as a separate line item under the EE heading. Measures part of the focused EE are listed in the EnergyWise and Small Business program lines.
(3) The MDC/Deferral column represents: 2012-2013: the system-average distribution benefit and 2014-2017: the calculated deferral benefit as defined in the notes section of Table S-2
(4) All benefits are in $current year except deferral benefits which are in $2014.
(5) 2012-2013 amounts have been updated to reflect year end data. 2014 amounts have been updated to reflect year end projections.
(6) Benefits due to EE reflect new installations within the year. Benefits due to Non-EE reflect cumulative installations

Table S-6
System Reliability Procurement - Tiverton/Little Compton
Demand Reduction

				Tstats	Smart Plug	Lighting
Per- Event Capacity Savings per Residential Participant (kW)				**1.25**	**0.09**	**n/a**
Per- Event Capacity Savings per C&I Participant (kW)				**2.5**	**n/a**	**0.065**
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
Number of Event Hours						
Thermostats			12	48	48	48
Plug Load Devices			6	24	24	24
Units						
Thermostats - Residential	35	167	212	262	312	362
Thermostats - C&I	0	4	9	14	19	24
Plug Load Devices	0	145	256	268	468	669
Forecasted Annual Capacity Savings (kW)	**20**	**104**	**140**	**174**	**216**	**258**
Thermostats - Residential	20	94	119	147	176	204
Thermostats - C&I	0	5	10	16	21	27
Smart Plugs	0	6	10	11	19	27
Forecasted Annual Energy Savings (kWh)	**0**	**0**	**1,615**	**8,090**	**9,905**	**11,720**
Thermostats - Residential	0	0	1,431	7,074	8,424	9,774
Thermostats - C&I	0	0	122	756	1,026	1,296
Smart Plugs	0	0	62	260	455	650
Cumulative Annual Demand Reduction Benefits ($)			**9,067**	**12,097**	**14,794**	**18,802**
Annual Energy Benefits ($)			88	462	575	762
Annual Capacity Benefits ($)			8,979	11,635	14,219	18,041

Notes:

(1) Forecasted event hours are based on an assumed three days of four-hour events, four times per year. In each event, it is assumed that the demand reduction will be staggered in two groups and cycled on and off.
(2) Savings above represent 45% of max. This includes a reduction of 50% to reflect event cycling style and an additional 10% reduction to account for thermostats not connected at time of event.
(2) The 2015 System Reliability Procurement Report seeks approval only for 2015 funds. Future projections over the life of the Tiverton/Little Compton pilot are estimates subject to change.
(3) All dollar amounts are in $current year.
(4) 2012-2013 amounts have been updated to reflect year end data and 2014 amounts have been updated to reflect year end projections.

Table S-7
System Reliability Procurement - Tiverton/Little Compton
Potential for Wires Project Deferral at Year Begin

	2012	2013	2014	2015	2016	2017	2018
Cumulative Annual kW from Energy Efficiency			**314**	**463**	**586**	**722**	**858**
Focused Energy Efficiency			108	155	189	236	283
SRP Energy Efficiency			206	308	397	486	575
Cumulative Annual kW from Demand Reduction			**124**	**140**	**174**	**216**	**258**
Thermostats - Residential			114	119	147	176	204
Thermostats - C&I			5	10	16	21	27
Smart Plugs			6	10	11	19	27
Total Cumulative kW Reduction			**438**	**603**	**760**	**938**	**1,115**
Total Cumulative kW Reduction Needed to Defer Wires Project			150	390	630	860	1,000
% Achieved			292%	155%	121%	109%	112%

Notes:
(1) All kW amounts are Summer kW and are cumulative.
(2) This table shows the number of kW have been either installed through EE or have become available to reduce through demand reduction by the end of the previous year to therefore contribute to the deferral of the wires investment in the current year.
(3) kW in Reserve acts as insurance against customers overriding the demand reduction themselves, so that the required reduction is still met.
(4) 2012 -2013 amounts have been updated to reflect year end data. 2014 amounts have been updated to reflect year end projections.

APPENDIX 4

Appendix 4 –Pilot Evaluation Deliverables from Opinion Dynamics Corporation

Opinion Dynamics

National Grid Rhode Island System Reliability Procurement Pilot: 2012-2013 Focused Energy Efficiency Impact Evaluation

Amanda Dwelley
Associate Director

May 12, 2014

Table of Contents

1. Executive Summary

This report presents the 2012-2013 Focused Energy Efficiency Impact Evaluation for the Rhode Island System Reliability Procurement (SRP) pilot in the towns of Tiverton and Little Compton. The SRP pilot was designed to determine whether demand-side management could be an effective method of reducing peak demand on the Tiverton substation, which serves over 5,000 customers in the pilot communities.[1] Starting in March 2012, National Grid increased marketing and outreach to encourage participation in select statewide energy efficiency programs, enrollment in SRP DemandLink offerings (WiFi programmable controllable thermostats and Smart Plug window AC control), and enrollment in SRP-specific energy efficiency offerings (Window AC Rebates and Recycling).

This report examines the take rate of "Focused Energy Efficiency" efforts, defined as SRP-specific marketing and outreach efforts aimed at increasing participation in existing statewide programs. The take rate represents the proportion of installations in the pilot area that are attributable to SRP pilot and marketing efforts and is a measure of net impacts.[2] Findings in this report are specific to the Residential EnergyWise program, and cover the period March 1, 2012 through December 31, 2013.

For the 2012-2013 SRP pilot period, we estimate an SRP pilot "take rate" of about 53% for the EnergyWise program. This take rate is based on 1) a survey with EnergyWise participants, from which we estimate SRP marketing attribution of 49% and 2) an incremental participation analysis comparing participation in the pilot communities with nearby towns, from which we estimate an incremental participation rate of 57%.

During the 2012-2013 pilot period, residential customers on the Tiverton substation installed EnergyWise measures with ex ante gross peak summer load savings totaling 35.1 kW. Applying the take rate of 53% to ex ante gross peak load savings, we estimate that the SRP pilot achieved incremental summer peak savings of 18.6 kW from measures installed between March 1, 2012 and December 31, 2013.

[1] Not all customers in the towns of Tiverton and Little Compton are served by the two sub-feeders (33 and 34) that are the focus of demand reduction efforts. Therefore, we make distinctions throughout this report between success metrics for the two towns overall, or specific to customers served by sub-feeders 33-34 (which we refer to as "the Tiverton substation" or "the substation").

[2] This analysis did not verify gross savings but applied the take rate to ex ante (i.e., program-reported) gross savings.

2. Overview of Approach

The Focused EE impact evaluation estimates the coincident peak load impacts of measures installed through statewide EE programs that are attributable to pilot marketing efforts (vs. statewide marketing). To assess peak load impacts, the evaluation uses the same peak kW savings per unit that National Grid uses in its cost-effectiveness tool, and estimates a "take rate" to represent the proportion of activity that would not have occurred without incremental SRP marketing efforts.

As stated in the Focused Energy Efficiency Evaluation Plan (dated 12/21/2012), we limit incremental participation analysis to programs that National Grid is directly promoting with SRP funds. For the 2012-2014 impact evaluation we will focus on residential programs only, and the 2012-2013 evaluation will focus on the EnergyWise program. National Grid and the evaluation team discussed the value of estimating incremental peak savings from Small Business program participants. Because historical participation counts in SBS are very low (four SBS participants in all of 2012, and only two in the pilot area), the potential kW reduction does not seem high enough to warrant evaluation activities (at this time). We will evaluate the Window AC Rebate program in 2015, to provide two seasons of participation data (since marketing for the window AC Rebate component began in mid-2013).

The impact evaluation for the EnergyWise program consists of three main efforts, outlined in the 2014 evaluation plan. These efforts are designed to quantify the influence of the pilot on customers' decisions to participate in the EnergyWise program. We refer to this influence metric as a "take rate" that can be applied to gross ex ante demand savings among EnergyWise participants in the pilot area (during the pilot period).

1. **Estimate the incremental EnergyWise participation rate among Tiverton and Little Compton participants relative to (a) past participants and (b) participants in nearby communities.** We conducted a database analysis of historical and SRP pilot period participation in EnergyWise, to compare participation rates in SRP communities versus comparison communities. The resulting incremental participation rate is one input into determining the overall "take rate" for the EnergyWise program.

2. **Understand SRP pilot influence and estimate SRP attribution from the EnergyWise Participant Survey.** We fielded an online survey among 343 participants in the EnergyWise program in 2012-2013. The survey collected information on participants' recall of SRP and statewide marketing efforts and the influence of those materials on customer participation. Of the 343 EnergyWise participants, 77 completed the survey.[3] Based on survey responses we estimated the level of influence of SRP pilot efforts on participation by estimating the SRP attribution, which will be described in more detail in the report. The estimate of SRP attribution is the second input into the "take rate" for the EnergyWise program.

3. **Estimate load impacts based on ex ante savings and evaluated "take rate".** During this step we identified, counted, and assigned ex ante gross load impacts (savings) to all measures installed in the pilot area (i.e., among Tiverton substation customers) during the evaluation period (March 1, 2012 – December 31, 2013). We then applied the evaluated "take rate" to these ex ante savings.

[3] Note that the SRP attribution analysis presented in this report is based on 73 of the 77 online survey responses. Four respondent had participated in the EnergyWise Program before SRP-specific marketing efforts began and are therefore excluded from this analysis.

The following subsections provide an overview of the methodology for each of these three efforts. We present more details of the approach in Appendix A.

2.1 Incremental Participation Rate

Incremental participation is the increase in EnergyWise participation in the pilot area (Tiverton substation customers) that would not have happened without the pilot. We apply a difference-in-differences approach to determine incremental participation. First, we compared the participation rate in the SRP pilot area during the evaluation period (March 1, 2012 – December 31, 2013) to participation in the pilot area during the baseline period (January 1, 2009 – February 28, 2012). Second, we compared this difference in participation in the pilot area with the difference in savings in a matched comparison region during the same time period. This analysis essentially controls for market trends, i.e., changes in program participation that would have occurred even without the pilot.

The matched comparison towns are: Narragansett, North Kingstown, South Kingstown (excluding URI), Bristol, Barrington and Warren. We describe the methodology for selecting these comparison towns in Appendix A.

Because the pilot and comparison groups are different (a) in terms of numbers of accounts and (b) in terms of their pre-pilot participation rates, the comparisons must be made in terms of a percent increase between the pre-pilot and pilot periods, rather than a change in the number of participants.

Using actual results from this evaluation period, the calculation is:

Pilot group participation (P):	P_{base}=Avg. of 89 participants per year
	P_{pilot} = Avg. of 304 participants per year[4]
	P_{change}= 242% increase
Comparison group participation (C):	C_{base} =Avg. of 707 participants per year
	C_{pilot} = Avg. of 1,028 participants per year
	C_{change}= 45% increase

The "lift" or incremental change attributable to the pilot is 242% - 45% or a 197% increase. This number can be applied to the pilot area baseline period count (89 participants/year) to show that 175 participants are incremental. Without the pilot, we would have expected to see a 45% increase in participation in the pilot group (or 129 expected audits). Instead we saw 304 audits– of these, 175 can be considered incremental, or attributable to the pilot program. We can calculate the "incremental participation rate" as the percentage of audits that are incremental: 175 / 304 = 57%.

[4] A total of 558 customers in Tiverton and Little Compton participated from March 1, 2012 – December 31, 2013.

2.2 SRP Attribution Based on EnergyWise Participant Survey

Opinion Dynamics estimated the level of influence of SRP marketing efforts on participation based on 1) responses to the EnergyWise participant survey and 2) the Rhode Island Technical Reference Manual (TRM) net-to-gross ratio for audit programs.

The formula used to calculate SRP attribution is:

*SRP Attribution = Average SRP Influence * EnergyWise NTG Ratio*

We define the two components of SRP attribution as follows:

- The *Average SRP Influence* factor represents the influence that SRP marketing efforts had on participants' decision to have a home energy assessment conducted. It is based on responses to the online survey. We used a multi-step approach to estimating the *Average SRP Influence* factor:
  - Step 1: Determine respondent recall of SRP and statewide marketing materials
  - Step 2: Determine maximum influence scores for SRP and statewide materials on decision to complete the energy assessment (respondent-level)
  - Step 3: Calculate share of influence attributable to SRP marketing versus statewide marketing
  - Step 4: Calculate respondent-level overall influence of SRP marketing on decision to have assessment
  - Step 5: Calculate program-wide *Average SRP Influence* score as the average of the overall SRP influence scores across all respondents
- The *EnergyWise NTG Ratio* represents the share of audit program participants that would not have installed the direct install measures without the audit. It is based on the RI TRM.

By calculating the SRP attribution as the product of these two components we take into account that free-ridership can occur at both steps: 1) some participants would have had the energy assessment independent of SRP-specific marketing and 2) some participants would have installed the direct install measures independent of the energy assessment.

2.3 Gross Load Impact Estimation

For each measure category, we calculate load impacts as the total quantity of measures installed in the pilot area, multiplied by coincident peak kW savings:

*Peak kW Savings = Quantity * kW Reduction per Unit * Summer Diversity Factor*

We then multiply the sum of savings across all measure categories by the take rate. Here, we discuss the key inputs into this analysis:

A. **Measure category:** We assigned a measure category to each installation record in the EnergyWise participation data. Peak savings are not assigned in the participation database, and therefore must be assigned based on deemed factors.

B. **Pilot Quantity:** Measure quantity comes from the program tracking data. We assigned measures installed in Tiverton and Little Compton to the 2012-2013 SRP pilot period based on the paid date, to match how National Grid counts savings in each year. We assigned measures to the Tiverton substation based on lists of account numbers on subfeeders 33-34 provided by National Grid.

C. **Peak kW Reduction Factors:** National Grid provided a set of deemed load reduction values and diversity factors for each EnergyWise measure category. The factors that National Grid provided are the same load assumptions that National Grid is currently using for cost-effectiveness tests of the EnergyWise Single-Family program in Rhode Island. Since these assumptions are specific to the EnergyWise program, they may differ from assumptions for analogous measures in the 2013 Rhode Island TRM (that other programs offer).

D. **Take Rate:** The take rate is the percentage of measure installations that can be attributed to the SRP Pilot efforts – i.e., measure installations that would probably not have occurred in the absence of SRP Pilot marketing efforts. We use incremental participation analysis and EnergyWise survey results to estimate a pilot take rate for the EnergyWise program.

The following table shows gross kW reduction assumptions and summer peak diversity factors for EnergyWise measures. Lighting, smart strips, refrigeration and domestic hot water measures are all expected to achieve peak demand savings, with the highest per-unit savings expected from heat pump water heaters and refrigerator rebates. Weatherization measures and thermostats are not expected to reduce load in summer months based on existing demand impact factors (i.e., no cooling savings). Though we know that some EnergyWise participants do have central air conditioning and therefore may achieve some savings from weatherization or thermostats during peak summer periods, the currently-available impact factors do not assign savings to these types of homes.

Table 2-1.EnergyWise Load Impact Factors

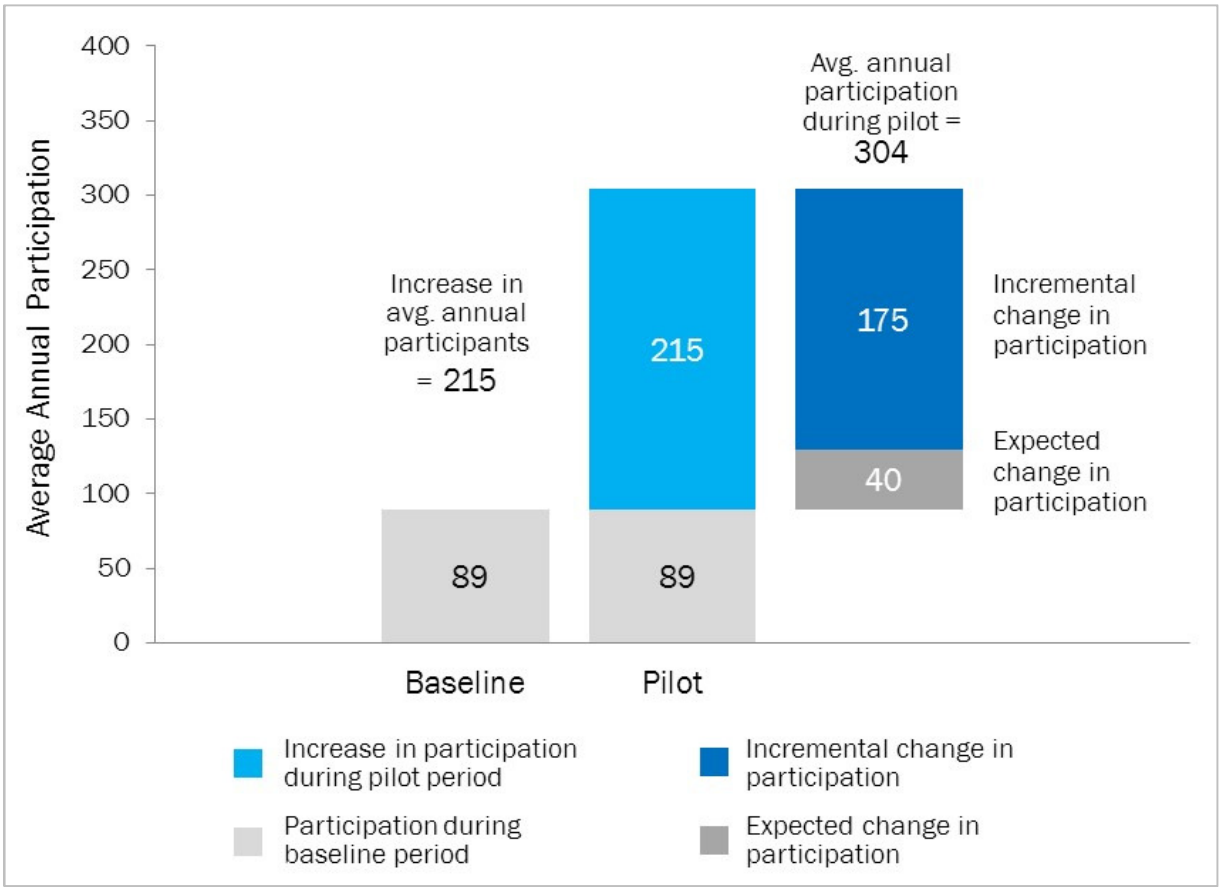
Measure Category	Gross kW Reduction per unit	Summer Diversity Factor (Peak Diversity Factor)	Average Peak Summer Load Reduction (kW)
CFL	0.01	0.17	0.002
LED Bulbs	0.01	0.17	0.002
Indoor Fixtures	0.02	0.17	0.003
Outdoor Fixture	0.05	0	0.000
DHW	0.02	1	0.020
HPWH 50 gallon	0.37	0.47	0.174
Refrigerator Brush	0.007	1	0.007
Refrigerator rebate	0.10	1	0.100
Smart Strip	0.02	0.73	0.015
Programmable Thermostat	0	0	0.000
Air Sealing	0	0.72	0.000
Ventilation – Other	0	0	0.000
Weatherization – Electric Heat	0.832	0	0.000
Weatherization – Gas Heat	0.134	0	0.000

3. Results

3.1 Incremental Participation Rate

The incremental participation rate during the 2012-2013 pilot period is 57%. Before the SRP pilot began, there were 89 new EnergyWise participants per year in Tiverton & Little Compton, on average, between January 2009 and February 2012. Between March 2012 and December 2013, there were 558 new EnergyWise participants in the pilot communities, averaging 304 participants per year. Between the baseline period and pilot period, the count of EnergyWise participants per year in the comparison communities increased by 45%. Based on this increase in the comparison communities, we would have expected 40 additional participants in the pilot communities per year. However, the average number of participants per year increased by 215 in the pilot communities, of which 175 participants were incremental. From the annualized incremental participant count (175) and average annual participation during the pilot (304), we calculate an incremental participation rate of 57%.

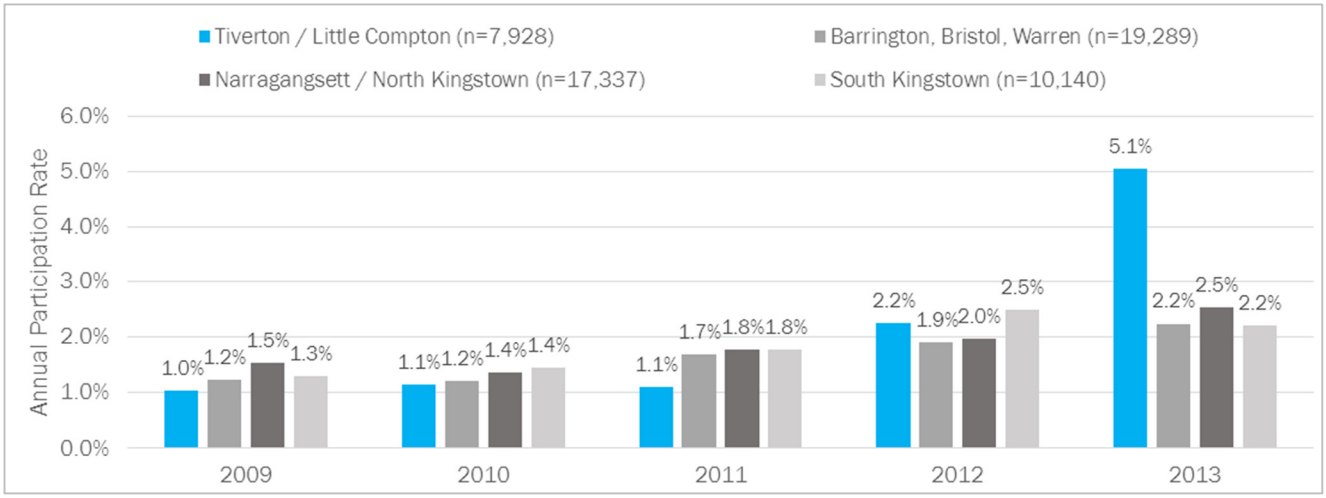
Figure 3-1. Incremental Participation in Pilot Communities (Average Annual Participation, 3/1/2012 – 12/31/2013)



The figure below shows participation rates in the pilot communities and sub-groups of comparison communities for each year of the baseline and pilot period. From this figure we see that none of the

comparison communities experienced as large increases in participation during the pilot as the pilot communities.[5]

Figure 3-2. EnergyWise Participation Rates[a] in SRP Pilot and Comparison Towns, 2009-2011



[a] Calculated as the number of unique participants in each year divided by the US Census count of occupied housing units. These counts are not perfectly equivalent to residential customer counts.

3.2 SRP Attribution Based on EnergyWise Participant Surveys

We estimate SRP attribution for the 2012-2013 pilot period to be 49%. This is based on an average influence rate of SRP marketing (on participants' decision to have an energy assessment) of 50% and the EnergyWise net-to-gross (NTG) ratio of 0.97.[6]

The SRP influence rate is based on 1) participant recall of SRP-specific and statewide marketing materials, 2) the influence of marketing materials on participants' decision to have a home energy assessment conducted, and 3) the relative importance of SRP-specific versus statewide marketing materials on participants' decision to have a home energy assessment conducted. The following subsections provide additional information about these factors.

Recall of SRP-Specific and Statewide Marketing Materials

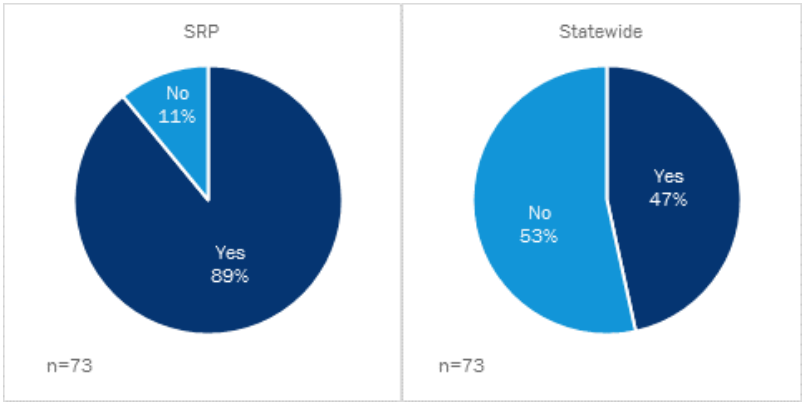
During the 2012-2013 pilot period, customers in the pilot towns were exposed to both SRP-specific and statewide marketing materials. The online survey provided participants with a series of images and descriptions of materials from both marketing campaigns and asked them if they recalled seeing, hearing, or

[5] Though South Kingstown experienced a slight uptick in participation in 2012, this increase is in line with a trend of increasing participation in South Kingstown in 2009, and the relatively small size of South Kingstown compared to other communities means that its counts are not as influential as other towns.

[6] Based on the 2013 Rhode Island TRM and discussions with National Grid, the assumed net-to-gross for non-weatherization single-family measures and all multifamily measures is 0.97.

receiving each item. As shown in Figure 3-3, 89% of respondents recall at least one SRP-specific effort while only 47% recall at least one statewide effort.

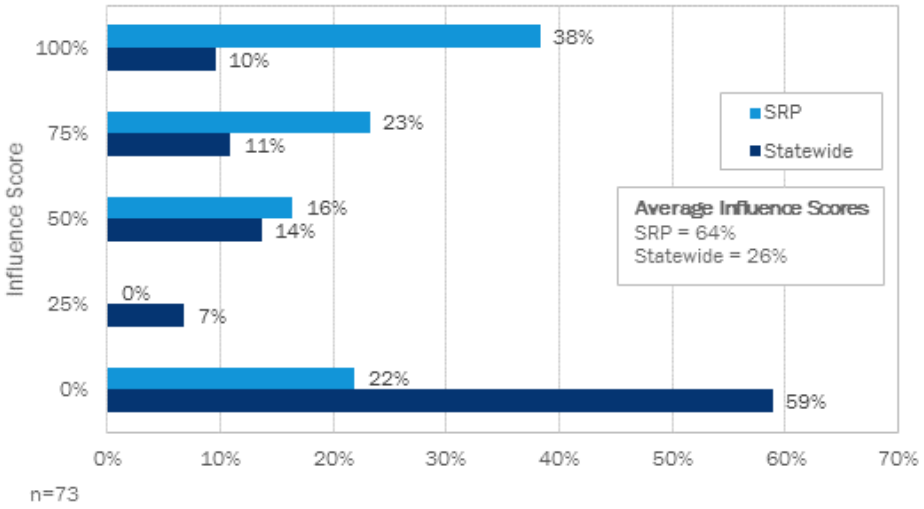
Figure 3-3. Percent of Respondents who Recall at Least One Marketing Effort



Influence of Marketing Materials on Decision to Have a Home Energy Assessment

If respondents could recall a marketing piece, the online survey asked them to rate the level of influence it had on their decision to complete the home energy assessment (using a scale of 1 to 5 where 1 was "Not at all influential" and 5 "Very influential"). We then converted the highest self-reported influence rating for each campaign into an influence score.[7] The graph below illustrates the distribution of SRP-specific and statewide influence scores among survey respondents. The average influence score for SRP-specific materials among all respondents was 64% while the average influence score for statewide materials was 26%.

Figure 3-4. SRP and Statewide Influence Scores



[7] Respondents who did not recall any SRP-specific or any statewide materials, received an influence score of 0% for the respective campaigns.

Overall SRP Marketing Influence Based on Relative Importance of SRP-Specific and Statewide Marketing

The *Overall SRP Marketing Influence* score takes into account the influence of SRP-specific marketing relative to the influence of statewide marketing, by applying the SRP share of marketing influence to the *SRP Influence* score. The table below shows the distribution of the *Overall SRP Marketing Influence* scores among the 73 survey respondents. The table shows that the largest share of participants (22%) was either fully influenced by SRP-specific marketing (an *Overall SRP Marketing Influence* score of 100%) or not at all influenced by SRP-specific marketing (an *Overall Marketing SRP Influence* score of 0%).

The program-wide *Overall SRP Influence* score, 50%, is the average of the *Overall SRP Influence* scores across all respondents.

Table 3-1. SRP Influence Score to Overall SRP Influence Conversion

Influence Score		SRP Share of Marketing Influence	Overall SRP Influence	Participants	
SRP	Statewide			n	%
100%	0%	100%	100%	16	22%
100%	25%	80%	80%	1	1%
75%	0%	100%	75%	5	7%
100%	50%	67%	67%	7	10%
75%	25%	75%	56%	1	1%
100%	100%	50%	50%	4	5%
50%	0%	100%	50%	7	10%
75%	50%	60%	45%	2	3%
75%	75%	50%	38%	6	8%
Influence Score		SRP Share of Marketing Influence	Overall SRP Influence	Participants	
SRP	Statewide			n	%
50%	25%	67%	33%	2	3%
75%	100%	43%	32%	3	4%
50%	50%	50%	25%	1	1%
50%	75%	40%	20%	2	3%
0%	0%	0%	0%	15	21%
0%	25%	0%	0%	1	1%
Average *Overall SRP Influence* Score:			50%	73	100%

3.3 Estimation of the Take Rate

We compared the SRP attribution rate from the EnergyWise survey (48.8%) and the incremental participation rate (57.5%) to develop an overall take rate for the 2012-2013 pilot. Given the benefits and uncertainties of each method, we recommend using the midpoint of these two rates – 53.1% – to estimate net pilot savings. Specifically, we considered the following tradeoffs between the two methods:

- **Incremental participation analysis:** This method accounts for all participants in the pilot area and comparison communities, making it a comprehensive "population" analysis. However, this method does not control for all non-program factors that may have occurred outside of statewide marketing (e.g., independent, community-based energy efficiency efforts) that may have influenced participation rates in comparison communities. Additionally, the comparison communities, even as a group, are not perfectly identical to the SRP communities in terms of demographics and pre-pilot participation rates (see Appendix A), and therefore we might expect slightly different rates of participation growth for each set of communities. By including numerous comparison communities in slightly different geographic areas, yet as close to the pilot area as possible, we attempted to mitigate these affects to the extent possible.

- **EnergyWise participant surveys:** This method represents a direct measurement of the variable of interest: recall of SRP-specific marketing and its influence on participants' decision to have a home energy assessment. However, the method is based on a sample of participants and is therefore subject to potential response bias. In addition, this method uses self-reported information, which can be unreliable. Finally, this method incorporates a net-to-gross ratio based on the RI TRM, which we did not independently verify within the scope of this evaluation.

The EnergyWise take rate can be updated in future years, using EnergyWise program tracking data and ongoing EnergyWise survey results.

3.4 Measure Installations during Pilot

The table below shows the quantities and peak kW load impacts (*quantity * kW reduction * summer diversity factor*) for all installations in the substation area (subfeeders 33-34) during the pilot period. The majority of peak demand savings in the pilot area are expected to come from CFLs, followed by smart strips and refrigerator brushes. As mentioned in the methodology section above, weatherization measures and thermostats are not expected to reduce load in summer months based on existing demand impact factors. However, we know that some EnergyWise participants do have central air conditioning and therefore may achieve some savings from weatherization or thermostats during peak summer periods that may not be counted in these impact results.

Based on program tracking data and peak load factors provided by National Grid, ex ante gross peak load reductions in the 2012-2013 pilot period were 35.1 kW.[8]

[8] It should noted that National Grid established Focused Energy Efficiency goals for the pilot that apply to *all* measure installations in the pilot area, not just incremental savings achieved by the pilot.[8] The Focused Energy Efficiency goal for 2012 and 2013 was 66 kW of summer load reduction (net). Applying a program-level net-to-gross ratio of 0.97 to the ex ante gross load savings of 35.1 kW, net peak kW savings within the SRP area are 34.0 kW. These savings represent about 52% of Focused Energy Efficiency goal.

Table 3-2. Installed Measures and Ex Ante Gross Peak Load Reduction in SRP Pilot Area, 3/1/2012 - 12/31/2013
(before applying SRP Pilot take rate)

Measure Category	3/1/2012 - 12/31/2012		1/1/2013 - 12/31/2013		3/1/2012 - 12/31/2013	
	Total Measure Quantity [a]	Total Peak Load Reduction (kW)	Total Measure Quantity	Total Peak Load Reduction (kW)	Total Measure Quantity	Total Peak Load Reduction (kW)
CFL	2,382	4.0	8,670	14.7	11,052	18.8
LED Bulbs	87	0.1	998	1.7	1,085	1.8
Indoor Fixtures	28	0.1	96	0.3	124	0.4
Outdoor Fixture	1	0.0	11	0.0	12	0.0
DHW	0	0.0	71	1.4	71	1.4
HPWH 50 Gallon	0	0.0	1	0.2	1	0.2
Refrigerator Rebate	3	0.3	6	0.6	9	0.9
Refrigerator Brush	103	0.7	297	2.1	400	2.8
Smart Strip	60	0.9	539	7.9	599	8.7
Programmable Thermostat	5	0.0	41	0.0	46	0.0
Air Sealing [a]	0	0.0	27	0.0	27	0.0
Ventilation – Other [a]	0	0.0	60	0.0	60	0.0
Weatherization (multiple fuels) [a]	0	0.0	141	0.0	141	0.0
TOTAL	2,669	6.2	10,958	28.9	13,623	35.1

[a] Quantities of Air Sealing, Ventilation and Weatherization are the accounts of unique participants. All other quantities are measure counts (e.g., count of installed bulbs). In 2012, no participants in the pilot area installed weatherization measures (though participants in other areas of Tiverton & Little Compton installed these measures).

3.5 Summary of Incremental SRP Load Impacts

The estimated take rate for this evaluation period is 53.1%. We compared the SRP attribution based on the EnergyWise surveys (48.8%) and the incremental participation rate (57.5%). Given the pros and cons of each method described above, we recommend using the midpoint of these two rates – 53.1%. Applying the two rates to the measure-level results, we estimate that the pilot achieved summer peak load savings totaling 18.6 kW, in a range of 17.1 – 20.2 kW. Table 3-3 below contains the ranges for each measure category.

Table 3-3. 2012-2013 SRP Pilot Load Impacts by Measure Category

Measure Category	3/1/2012 - 12/31/2013	
	Incremental Peak Load Reduction (kW)	Range (kW)
CFL	10.0	(9.2 - 10.8)
LED Bulbs	1.0	(0.9 - 1.1)
Indoor Fixtures	0.2	(0.2 - 0.2)
Outdoor Fixture	0.0	(0 - 0)
DHW	0.8	(0.7 - 0.8)
HPWH 50 Gallon	0.1	(0.1 - 0.1)
Refrigerator Rebate	0.5	(0.4 - 0.5)
Refrigerator Brush	1.5	(1.4 - 1.6)
Smart Strip	4.6	(4.3 - 5)
Programmable Thermostat	0.0	(0 - 0)
Air Sealing	0.0	(0 - 0)
Ventilation – Other	0.0	(0 - 0)
Weatherization (multiple fuels)	0.0	(0 - 0)
TOTAL	18.6	(17.1 - 20.2)

Appendix B contains a table with incremental quantities and peak kW results per measure category for each program period (2012 and 2013).

Appendix A: Detailed Methodology

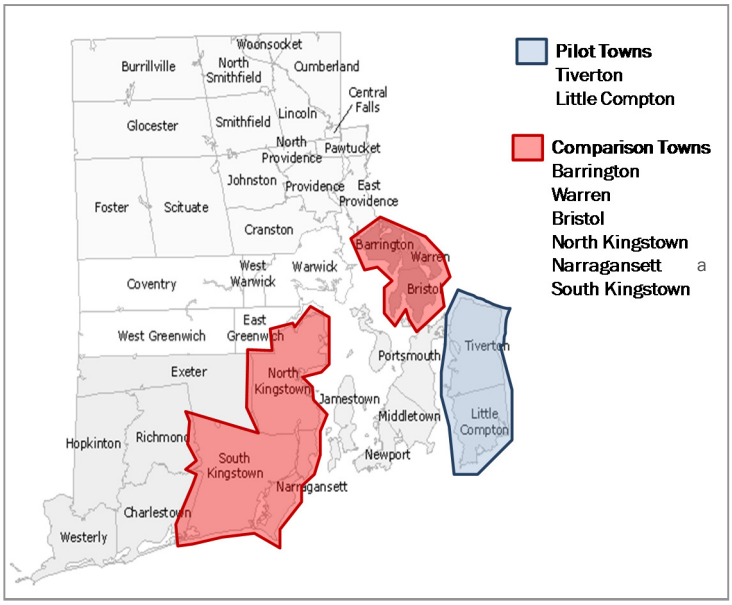
Comparison Community Selection

Our community comparison selection process focused on similarities in the residential customer base. Specifically, we aimed to identify Rhode Island communities for which:

- EnergyWise participation trends over past few years are similar (i.e., similar rates of increase from year to year)
- Residents may have similar incentive and ability to retrofit homes (assessed by owner occupancy, single-family homes, housing values, and seasonal usage patterns)
  - Because seasonal usage patterns are difficult to measure, the Evaluation Team decided to include comparison towns that were most geographically similar (i.e. eligible towns and towns on the southwestern edge of Narragansett Bay)
- Residents may have similar housing stock, related to opportunity and incentive to retrofit (assessed primarily by geographic proximity, year home is built, heating fuel)
- Towns did not participate in the Aquidneck Energy Action pilot

Based on the criteria above, we included the following towns in the comparison group: Barrington, Bristol, Warren, Narragansett, North Kingstown, and South Kingstown (excluding the ZIP code associated with the University of Rhode Island). We recommend including this larger group of towns to buffer against future localized participation trends that may be due to community efforts or media that is not affiliated with statewide programs.

Figure A-1. SRP Pilot and Comparison Communities



[a] *Excludes ZIP code that includes University of Rhode Island (02881).*

Map Source: Rhode Island Department of Labor and Training

Table A-1 shows that the SRP pilot towns have slightly higher owner occupancy and single-family home rates of the potential comparison community groups.[9] Home values and income are slightly lower in the SRP communities; slightly lower average income in SRP communities may be related to slightly more heads-of-household over age 65). One of the largest differences is in the proportion of homes heated by electric or gas. The majority of homes in the pilot area use oil heat, and few use gas, whereas potential comparison communities have a fairly even mix of oil and gas.

Table A-1. Housing and Income Characteristics of SRP Pilot and Comparison towns

Subject	SRP Pilot	All Comparison Communities	Barrington, Bristol, Warren	Narragansett, N. Kingstown	South Kingstown [a]
Residential Households[10]	7,928	46,766	19,289	17,337	10,140
Demographics					
Pct Owner Occupied	79.6%	74.4%	72.3%	75.4%	77.5%
Median Household Income	$69,543	$73,478	$72,073	$73,855	$74,803
Head-of-Household Age 65+	30.4%	24.6%	25.9%	23.0%	25.8%
Housing					
Pct Single-Family	79.3%	73.7%	68.1%	75.5%	80.7%
Home built 1990 or later	25.1%	19.6%	10.8%	20.9%	31.5%
Pct Utility Gas Heat	7.5%	9.6%	7.7%	10.6%	10.7%
Pct Electric Heat	8.1%	39.2%	46.4%	41.5%	22.6%
Median Home Value	$345,711	$367,417	$361,714	$374,617	$365,951

Source: US Census American Community Survey 2007-2011 (5-year estimates). Towns are defined by ZIP Code Tabulation Area (ZCTA)

[a] *Excludes ZIP code that includes University of Rhode Island (02881).*

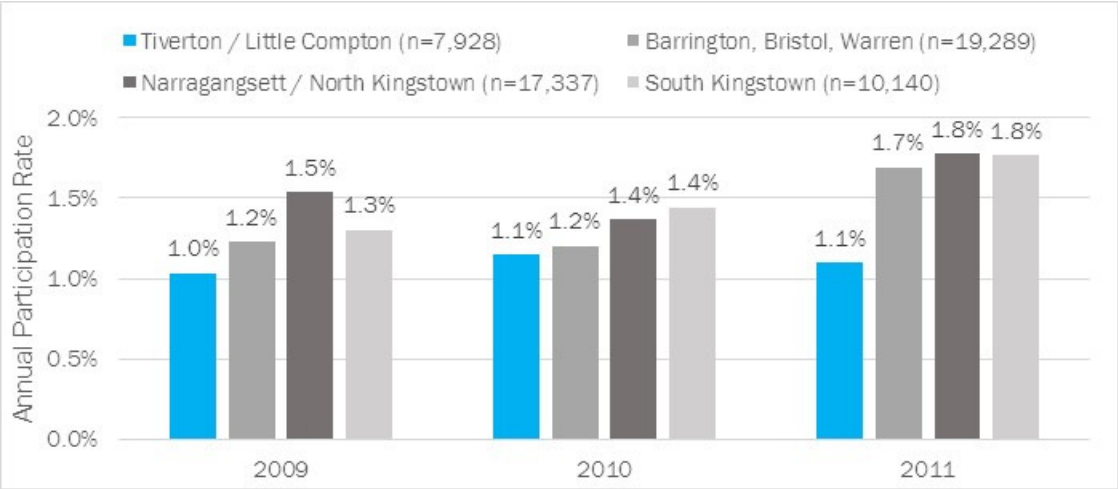
Next, we looked at trends in audit participation over a multi-year period within each community. Figure A-2 shows participation rates in each year[11] as a percentage of all Census-defined households in the area. Participation is relatively stable in the pilot communities from 2009-2011, while the comparison communities show a slightly higher increase in the participation rate from 2009-2011.

[9] We group the communities based on geography to illuminate slight differences.

[10] The US Census defines households as occupied housing units; these counts are not perfectly equivalent to residential customer counts.

[11] Calculated as the number of unique participants in each year divided by the US Census count of occupied housing units. These counts are not perfectly equivalent to residential customer counts.

Figure A-2. EnergyWise Participation Rates in SRP Pilot and Comparison Towns, 2009-2011



Our analysis will define January 1, 2009 to February 28, 2012 as the baseline. This ensures that we have sufficient data in the baseline period to estimate participation across a variety of marketing activities (which, though statewide, may have stimulated program activity in different areas, at different times).

The table below lists ZIP codes in EnergyWise participation analysis and corresponding Census ZIP Code Tabulation Areas.

Communities	US Census ZIP Code Tabulation Areas (ZCTA)	ZIP codes included in EnergyWise participation analysis
Tiverton, Little Compton	02837, 02878	02837, 02878
Barrington, Bristol, Warren	02806, 02809, 02885	02806, 02809, 02885
Narragansett, North Kingstown	02852, 02874, 02882	02852, 02854, 02874, 02882
South Kingstown (excl. URI)[12]	02879, 02892	02879, 02883, 02892

Prepare program tracking data for Incremental Participation Analysis

To assign participation data to the time-periods of interest and count records, we used the following rules:

Counting participation: In each area, a unique Facility ID that the program implementer assigns defines participants. This facility ID can apply to a single-family or multi-family facility, and remains the same for a facility that participates on different dates. In multifamily facilities, the EnergyWise program may affect multiple accounts at the facility through common area or in-unit energy efficiency improvements. However, we count the number of unique participants by the number of unique facility IDs for two reasons: (1) to reflect the number of decision-makers who made a choice to participate, and (2) to minimize the fluctuations in counts that could occur in either the SRP or comparison communities if a very large multifamily facility were to participate in a given time period.

[12] Excludes ZIP 02881 (URI and surrounding area)

For the purpose of incremental participation analysis, we counted all customers in Tiverton and Little Compton in each year – not just the count of the substation customers – in the SRP pilot area count. Though the pilot targeted most marketing efforts to Tiverton and Little Compton customers in the pilot period, some efforts were community-wide, and we might expect an increase in participation across the community due to the pilot efforts. Additionally, customers are associated with the two sub-feeders on the substation based on an account list provided by National Grid. The earliest list available was pulled in February 2012, and reflected the subfeeders of current customers. Since counting baseline period participation among substation customers would require identifying substation and non-substation customers going back to 2009, and a list of subfeeder customers in each of years 2009-2011 was not available, we do not believe that assignments based on a 2012 list accurately capture the count of EnergyWise participants on the substation in each of years 2009-2011 (without identifiers, the substation count would be understated). Therefore, we did not attempt to separate incremental participation counts for substation customers only.

Assigning participants to the program period or pre-period: We assigned each participant to a year based on the first status date that appeared in the program tracking database. This ensured that we did not count participants multiple times if they receive follow-up visits to install additional measures. For status dates that occurred three or more years apart, we counted the later status date as a new participation event, since customers can receive an audit every three years.

SRP Attribution Based on EnergyWise Participant Survey

The formula used to calculate SRP attribution as:

*SRP Attribution = Average SRP Influence * EnergyWise NTG Ratio*

We define the two components of SRP attribution as follows:

- The *Average SRP Influence* factor represents the influence that SRP marketing efforts had on participants' decision to have a home energy assessment conducted. We based this factor on responses to the online survey. We used a multi-step approach to estimating the *Average SRP Influence* factor:
  - Step 1: Determine respondent recall of SRP and statewide marketing materials
  - Step 2: Determine maximum influence scores for SRP and statewide materials on decision to complete the energy assessment (respondent-level)
  - Step 3: Calculate share of influence attributable to SRP marketing versus statewide marketing
  - Step 4: Calculate respondent-level overall influence of SRP marketing on decision to have assessment
  - Step 5: Calculate program-wide *Average SRP Influence* score as the average of the overall SRP influence scores across all respondents
- The *EnergyWise NTG Ratio* represents the share of audit program participants that would not have installed the direct install measures without the audit. It is based on the RI TRM.

By calculating the SRP attribution as the product of these two components we take into account that free-ridership can occur at both steps: 1) some participants would have had the energy assessment independent

of SRP-specific marketing and 2) some participants would have installed the direct install measures independent of the energy assessment.

Below, we present additional detail on each of these four steps as well as a few examples of participant responses and the resulting influence scores.

Step 1: Determine recall of SRP-specific and statewide marketing materials

During the 2012-2013 pilot period, customers in the pilot towns were exposed to both SRP-specific and statewide marketing materials. The online survey provided participants with a series of images and descriptions of marketing materials from both the SRP-specific and statewide marketing campaigns and asked them if they recalled seeing, hearing, or receiving each item. The table below summarizes the marketing materials included in the survey.

Table A-2. Marketing Materials Included in Survey

Description of Marketing Material	Campaign	
	SRP	Statewide
Direct Mail	√	√
Postcard	√	
Email	√	√
Phone	√	
Newspaper Article	√	
Facebook Ad	√	
Paid Search	√	
Facebook Posts	√	
Twitter Posts	√	
Community Event	√	
Radio		√
Newspaper Ad		√
Online Banner Ads		√
Cinema		√

Step 2: Determine maximum influence scores for SRP-specific and statewide materials on decision to complete the energy assessment

If respondents could recall a marketing piece, the online survey asked them to rate the level of influence it had on their decision to complete the home energy assessment (using a scale of 1 to 5 where 1 was “Not at all influential” and 5 “Very influential”).

We used the highest influence rating a respondent gave to any of the SRP-specific materials to generate the SRP influence rating. Similarly, we used the highest influence rating a respondent gave to any of the statewide materials to generate the statewide influence rating. For example, if a respondent recalled seeing three SRP-specific marketing materials and rated the influence they had on their decision to complete the home energy assessment a two, a three, and a five, respectively, on the five-point scale we assigned the maximum SRP influence of five.

We then converted the highest self-reported influence rating for each campaign into an *SRP Influence Score* using the table below.

Table A-3 Conversion of Influence Rating to % Influence Score

Self-Reported Influence Rating[a]	% Influence Score
1- Not at all Influential	0%
2	25%
3	50%
4	75%
5- Very Influential	100%

[a] Respondents who did not recall any SRP-specific or any statewide materials, respectively, received an influence score of 0%.

The result of this step is an SRP-specific influence score and a statewide influence score for each survey respondent.

Step 3: Calculate share of marketing influence attributable to SRP-specific efforts

Because both statewide and SRP-specific materials could have influenced a participant to have the energy assessment done, we then determined the share of overall marketing influence attributable to the SRP-specific marketing materials.

$$\textit{Share Attributable to SRP} = \frac{\textit{SRP Influence Score}}{\textit{SRP Influence Score} + \textit{Statewide Influence Score}}$$

Step 4: Calculate overall influence of SRP marketing on decision to have energy assessment

In this step, we apply each respondent's SRP share of marketing influence attributable to SRP (developed in Step 3) to the *SRP Influence Score* (developed in Step 2) to calculate the *Overall SRP Marketing Influence* score. This score represents the influence of SRP materials, net of the influence of statewide materials, on the respondent's decision to have an energy assessment conducted.

*Overall SRP Marketing Influence = Share of Influence attributable to SRP * SRP Influence Score*

Step 5: Calculate program-wide *Average SRP Influence* score

We then average the *Overall SRP Marketing Influence* scores developed in Step 4 across all respondents to derive the program-wide *Average SRP Influence* score.

Examples

Below we provide a few scenarios that illustrate the calculation of respondent-level influence scores.

Table A-4. Respondent-Level Influence Score Scenarios

Scenario	Step 2: Influence Score		Step 3: SRP Share of influence	Step 4: Overall SRP Marketing Influence
	SRP	Statewide		
Recalls SRP marketing materials only, or says statewide materials had little or no influence on decision to participate. The entire marketing influence is attributable to SRP-specific efforts. The overall SRP influence is equal to the SRP influence score.	100%	0%	100%	100%
	75%	0%	100%	75%
	50%	0%	100%	50%
Recalls both SRP and statewide materials and rates influence of both campaigns equally. SRP and statewide materials are equally responsible for marketing influence, and SRP share of marketing influence is 50%. The overall SRP influence is equal to half of the SRP influence score.	100%	100%	50%	50%
	75%	75%	50%	38%
	50%	50%	50%	25%
Recalls both SRP and statewide materials and rates SRP materials as more influential in decision. A greater share of influence is attributable to SRP than statewide materials.	100%	50%	67%	67%
	75%	50%	60%	45%
Doesn't recall SRP marketing materials or says they had little or no influence on decision to participate. No overall SRP influence, independent of influence of statewide materials.	0%	0%	0%	0%
	0%	25%	0%	0%

Appendix B: Detailed Findings

The table below shows incremental quantities and peak kW results per measure category for each program period (2012 and 2013).

Table B-1. 2012-2013 SRP Pilot Load Impacts by Measure Category and Time Period

Measure Category	2012 Pilot Period (3/1/2012 - 12/31/2012)		2013 Pilot Period (1/1/2013 - 12/31/2013)		2012-2013 Pilot Period (3/1/2012 - 12/31/2013)	
	Incremental Quantity [a]	Incremental Peak Load Reduction (kW)	Incremental Measure Quantity	Incremental Peak Load Reduction (kW)	Incremental Measure Quantity	Incremental Peak Load Reduction (kW)
CFL Bulbs	1,265	2.2	4,606	7.8	5,871	10.0
LED Bulbs	46	0.1	530	0.9	576	1.0
Indoor Fixtures	15	0.1	51	0.2	66	0.2
Outdoor Fixtures	1	0.0	6	0.0	6	0.0
DHW	0	0.0	38	0.8	38	0.8
HPWH 50 Gallon	0	0.0	1	0.1	1	0.1
Refrigerator Rebate	2	0.2	3	0.3	5	0.5
Refrigerator Brush	55	0.4	158	1.1	212	1.5
Smart Strip	32	0.5	286	4.2	318	4.6
Programmable Thermostat	3	0.0	22	0.0	24	0.0
Air Sealing [a]	0	0.0	14	0.0	14	0.0
Ventilation – Other [a]	0	0.0	32	0.0	32	0.0
Weatherization (multiple fuels) [a]	0	0.0	75	0.0	75	0.0
TOTAL	1,418	3.3	5,821	15.4	7,239	18.6

[a] Quantities of Air Sealing, Ventilation and Weatherization are the accounts of unique participants. All other quantities are measure counts (e.g., count of installed bulbs). In 2012, no participants in the pilot area installed weatherization measures (though participants in other areas of Tiverton & Little Compton installed these measures).

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National Grid Rhode Island System Reliability Procurement Pilot: 2013 Marketing Effectiveness Findings

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Table of Contents

1. Executive Summary

This report presents the 2013 Marketing Effectiveness Analysis of the Rhode Island System Reliability Procurement (SRP) pilot in the towns of Tiverton and Little Compton. The SRP pilot was designed to determine whether demand-side management could be an effective method of reducing peak demand on the Tiverton substation, which serves over 5,000 customers in the pilot communities.[1] Starting in March 2012, National Grid increased marketing and outreach to encourage participation in select statewide energy efficiency programs, enrollment in SRP DemandLink offerings (WiFi programmable controllable thermostats and Smart Plug window AC control), and enrollment in SRP-specific energy efficiency offerings (Window AC Rebates and Recycling). This report presents research to determine how pilot marketing has contributed to participation goals over the duration of the pilot and examines the following outcomes:

- Program participation rates
- Inquiry rates (e.g., leads, marketing response)
- Marketing awareness and influence
- Participant and non-participant feedback on DemandLink offerings (from focus groups)

Findings in this report cover the period January 1, 2013 through December 31, 2013. Where possible, we also provide program-to-date values, starting in March 2012.

Key Findings and Recommendations

In its second year of implementation, participation in National Grid's EnergyWise program exceeded planning projections. The pilot also met residential WiFi thermostat planning projections and participation goals among participants with central air conditioning (CAC), even after a slow first year: While DemandLink participation did not meet 2012 goals, participation levels in 2013 brought cumulative participation from 2012-2013 in line with goals. However, participation among customers with window AC was generally lower than expected across all program components: The pilot did not meet participation goals or measure installation projections for DemandLink Smart Plug installations, nor did it meet planning projections for the window AC rebate and recycling efforts.

The pilot's success in reaching DemandLink WiFi programmable thermostat goals for CAC customers and exceeding EnergyWise participation goals suggests that the combination of ramp-up efforts in 2012 and direct marketing in 2013 were effective in 1) increasing awareness and knowledge of those program offerings and 2) encouraging participation. However, this was the first year that the program offered and marketed window air conditioning measures to customers. Based on the results for CAC-related DemandLink WiFi programmable thermostat over the past two years, some ramp-up period in measure adoption may be expected among window air conditioning customers.

Still, there is some evidence, based on focus groups, that some customers may not understand the program design or the benefits of the DemandLink WiFi programmable thermostat offerings (with and without Smart

[1] Not all customers in the towns of Tiverton and Little Compton are served by the two sub-feeders (33 and 34) that are the focus of demand reduction efforts. Therefore we make distinctions throughout this report between success metrics for the two towns overall, or specific to customers served by sub-feeders 33-34 (which we refer to as "the Tiverton substation" or "the substation").

Plugs). In addition, some customers with window AC appeared skeptical about how the Smart Plug technology would add value when coupled with their current usage behaviors, which they perceived as not requiring automation. Other customers appeared unsure if the time it takes to participate would outweigh the benefits. These customers may perceive the benefits as greater if they understand how the equipment may be used with other systems or appliances, including home heating. These findings suggest that efforts in the third program year should continue to streamline and clarify these offerings for customers, while maintaining transparency regarding the reason for conducting the pilot.

With respect to the lower-than-expected uptake of window air conditioning and recycling rebates, the program did not market or offer these rebates until the middle of 2013. Based on results from this first year of window AC offerings, it is too early to conclude whether these offerings will succeed in meeting longer-term participation objectives. Window AC penetration rates among program leads are in line with statewide averages, suggesting that the technical opportunity to participate may exist among customers in the pilot area (though the ability to realize expected savings through window AC measures is yet to be determined).

The dual-pronged direct marketing strategy that began in spring 2013 – a combination of direct mail and telemarketing – seems to have been effective in generating leads and increasing program participation in EnergyWise and DemandLink offerings. Leads increased dramatically during the telemarketing period, and the majority of these leads were among customers fed by the Tiverton substation, who were the target of telemarketing efforts. Nearly half (47%) of surveyed EnergyWise participants indicated that they first heard of the program through direct mail – a greater proportion than reported first learning about the program from an outbound phone call – suggesting that the mailings were effective in introducing customers to the program before they received a call.

2. Program and Marketing Overview

The pilot's second-year activities centered on enrolling residential and commercial customers in three programs that are offered exclusively to customers in the Tiverton and Little Compton pilot area:

- **DemandLink Programmable Controllable Thermostat Program**. Provides temperature control devices — WiFi Programmable Controllable Thermostat and Smart Plugs — to customers in Tiverton and Little Compton when they agree to participate in demand optimization events for two years. Customers receive an annual bill credit for participating in all demand optimization events. Customers must have a Wi-Fi internet connection and Window Air Conditioning or Central Air Conditioning to be eligible. For calendar year 2013, the pilot projected installing 50 programmable controllable thermostats in homes with central cooling, 200 Smart Plugs in homes with window or room air conditioning, and 10 thermostats in commercial facilities.

- **DemandLink Window Air Conditioner Rebate Program.** Between May 1 and September 1, 2013 National Grid offered customers in Tiverton and Little Compton a $50 rebate for the purchase of qualifying new window air conditioning units. Equipment was required to have an EER greater than or equal to 10.8 EER to qualify. The pilot projected providing rebates for 250 new ENERGY STAR® rated air conditioning units.

- **DemandLink Window Air Conditioner Recycling Program.** Between May 1 and September 1, 2013 National Grid offered customers in Tiverton and Little Compton a $25 rebate for each of up to four window air conditioners they recycled. The pilot projected providing rebates for 125 recycled units in 2013.

In addition to these SRP-specific offerings, the pilot encouraged participation in existing energy efficiency programs that may contribute to pilot savings: EnergyWise and Small Business Direct Install (SBDI). These two programs each perform two functions: 1) they are a platform for determining DemandLink eligibility and encouraging DemandLink participation and 2) they offer direct install energy efficiency measures that can help reduce peak load on the target substation. The pilot projected performing 200 EnergyWise Home Energy Assessments and performing direct installations in small businesses resulting in 258,563 kWh savings in 2013.[2]

To fulfill these planning projections, National Grid has increased marketing efforts for the above DemandLink programs and for the two statewide energy efficiency programs. Pilot marketing efforts in 2013 focused heavily on direct marketing to the entire eligible customer base (all residential and commercial customers served by the Tiverton substation). Between April and July of 2013, National Grid launched a series of direct mailings to eligible customers. Each wave of letters was following immediately by telemarketing calls conducting by the telemarketing agency RAM. In addition, National Grid hosted a community event in July and dropped a postcard and email in September and November, which featured new, community-focused messaging.

[2] Based on communications from National Grid, these are 2013 planning assumptions. These assumptions may differ from the most recent participation goals, filed in November of 2012.

Figure 2-1. 2013 SRP Marketing Timeline

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Direct Mail												
Outbound Telemarketing												
Community Event												
Postcard Mailing												
Email												

The following is a summary of each of the outreach efforts made in 2013.

- **Direct Mail.** National Grid sent two rounds of direct mail to 4,790 residential customers and 340 commercial customers in Tiverton and Little Compton. Each customer received a packet containing an introductory letter, a pamphlet, and an application form for the DemandLink Window Air Condition Rebate and Recycling Program. The message of these materials centered on the DemandLink Programmable Controllable Thermostat Program, the DemandLink Air Conditioner Rebate and Recycling Program, and the EnergyWise Home Energy Assessment Program. National Grid sent two rounds of mailings to customers, both in five waves. They sent the first between April 19 and May 17, 2013 and the second between May 24 and June 21, 2013. These mailings included a phone number and email address directing customers to reach out to the telemarketing team for more information.

- **Outbound Telemarketing**. National Grid utilized a professional telemarketing team, RAM, to conduct two rounds of outbound telemarketing to all customers in the qualified areas of Little Compton and Tiverton following each of the direct mail waves. The RAM team utilized a call script to identify qualified leads for the DemandLink Programmable Controllable Thermostat Program and the Window AC Rebate and Recycling programs. Using the script, callers provided a brief overview of the DemandLink and EnergyWise programs, questioned customers on the presence of central AC, window AC and WiFi capabilities, walked customers through offers relevant to them, and collected contact information for interested parties. RAM then passed this information on to RISE Engineering to follow up and set up a time for an installation. Conversely, if the customer was not interested in any of the offerings, the script instructed the caller to obtain a reason for disinterest.

  Beginning in April 2013, RAM made calls to 4,637 phone numbers. The team called each number one time in the first round. In July, the RAM team began a second round of follow up calls to 3,700 non-participants with working phone numbers.

- **Community Event.** National Grid hosted an Energy Awareness Day event at the Muddy Moose Café in Tiverton on July 16. A postcard mailing invited residents of Tiverton and Little Compton to attend the event to learn about how to save money by participating in DemandLink programs.

- **Postcard Mailing.** National Grid mailed a postcard to customers in Little Compton in Tiverton in late September. The postcard tested new messaging which positions the DemandLink programs as being beneficial to the local community in addition to the individual customer, “Good for you. Good for our community. Good for everyone.”

- **Email.** National Grid sent an e-mail blast to approximately 50% of the pilot target audience in early November. The email had a community focus that encouraged participants to sign up for the

DemandLink programs and join their neighbors who have already taken steps to reduce their electricity consumption.

These activities are in addition to ongoing statewide marketing that may advertise or market to customers in the pilot towns.

3. Summary of Program Leads and Participation

This section describes program participation and program leads (from inbound requests or outbound telemarketing) from the following perspectives:

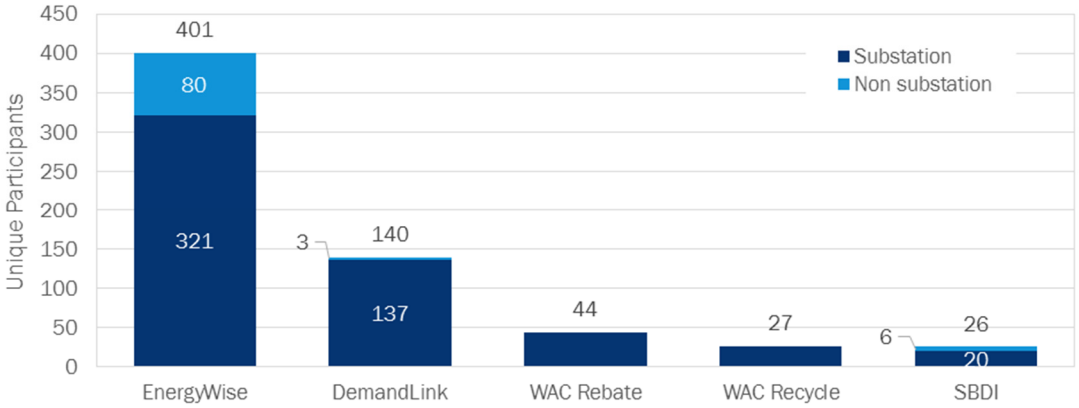
1. Overall participation and leads summary, by program component. Leads are defined as requests to participate in a program, which could occur through an inbound channel (e.g., an EnergyWise audit request, or inbound call regarding DemandLink offers), or when a customer signs up for a program in response to telemarketing.
2. EnergyWise program participation rates and "pre-participation" success metrics (such as response rates to outbound calling and marketing, and inbound calls to the program implementer)
3. DemandLink WiFi Programmable Thermostat and Smart Plug participation rates and pre-participation success metrics
4. DemandLink Window AC Rebate and Recycling participation rates and pre-participation success metrics
5. Small Business Direct Install (SBDI) participation

3.1 Overall Participation and Leads Summary

3.1.1 Participation

The figure below summarizes 2013 participation in the five key pilot program components: EnergyWise Home Energy Audit Program, DemandLink Programmable Controllable Thermostat Program, DemandLink Window Air Conditioner Rebate and Recycle Programs, and SBDI Program.

Figure 3-1. Tiverton and Little Compton Participation (2013)[a]



[a] EnergyWise and DemandLink counts include a minimal number of commercial customers. Based on rate code, four customers on the Tiverton substation participated in EnergyWise in 2013. Based on the program implementer's customer classification, two commercial customers installed WiFi programmable thermostats.

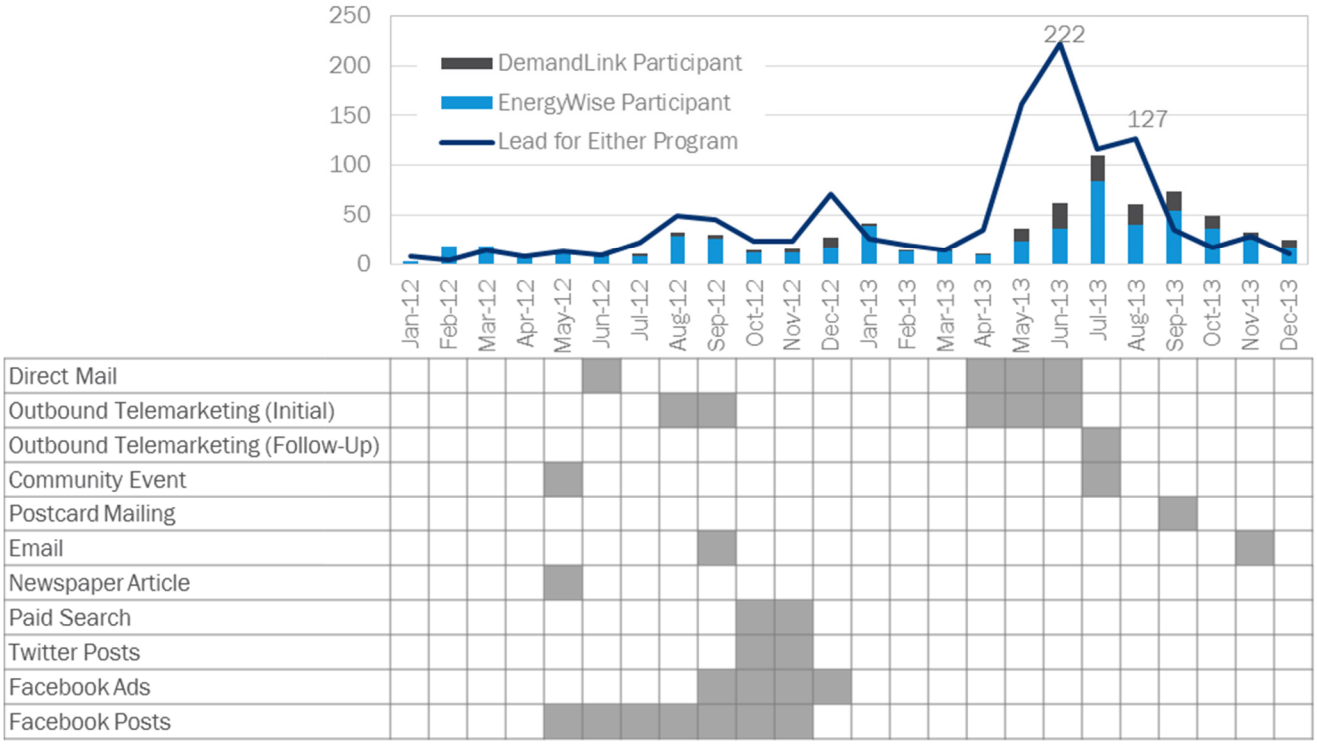
3.1.2 Leads

Beginning in April 2013, the pilot enlisted a third-party telemarketing firm, RAM, to place outbound telephone calls and manage inquiries from residential customers in Tiverton and Little Compton. These enhanced outreach efforts coincided with direct mail, such that customers would learn about the program by phone and mail in the same period.

There were 813 leads in the pilot communities for the EnergyWise and DemandLink programs in 2013.[3] The majority of these leads (711, or 87%) are served by the Tiverton substation. The figure below shows that May through August 2013 were the busiest months for leads, with 626 leads occurring in that period. Lead activity peaked in June with 222 leads (27%) and was followed a month later by a peak in program participation. There was another increase in leads in August, followed again by a peak in program participation in September. The enhanced telemarketing and direct mail efforts, which coincide with the timing of peak lead activity, may have had an influence on the number of leads between May and June and in August.

Overall lead counts were 178% higher in 2013 compared with 2012. Looking specifically at leads between April and July of 2013, which coincide directly with the timing of RAM telephone outreach and direct mail efforts, overall lead counts are 908% higher compared with the same period in 2012.

Figure 3-2. EnergyWise and DemandLink Program Leads in Tiverton and Little Compton (2012-2013)



[3] This count includes 13 leads from substation customers with a commercial rate code (5 for DemandLink, 4 for EnergyWise, and 4 for both programs).

Enhanced telemarketing efforts that began in April focused on a list of 4,637 residential and commercial customers served by the Tiverton substation. Outbound calling efforts succeeded in reaching 1,172 (75%) of these customers and generating 565 leads (12%). The RAM team used a call script to identify and pass along qualified leads to RISE who would then begin the participation process. The RAM callers recorded a disposition for each call that included the program – EnergyWise, DemandLink, or both – of interest to each customer. A summary of the response results is provided below.

Table 3-1. Summary of RAM Telemarketing Dispositions, 2013

	Residential (n=4,297)	Commercial (n=340)	Total (n=4,637)
No response	73%	87%	74%
Do Not Call/Hung Up	1%	1%	1%
Reached but Not a Lead	13%	7%	12%
EnergyWise Lead	5%	1%	4%
DemandLink Lead	3%	2%	3%
EnergyWise and DemandLink Lead	5%	1%	5%
Participant had already signed up	1%	1%	1%

The following sections present participation and lead information for the key program components.

3.2 EnergyWise Program

3.2.1 Participation

Participation in the EnergyWise Program is a key measure of the pilot's success marketing EnergyWise and of the pilot's potential to recruit DemandLink participants. For the purpose of this evaluation, we report findings for (a) the pilot communities overall and (b) the subset of Tiverton and Little Compton customers who are on substation feeders 33 and 34. The 2012-2013 impact analysis (forthcoming in 2014) will provide comparative analysis of EnergyWise participation rates in the SRP communities and similar, non-pilot towns in the same period.

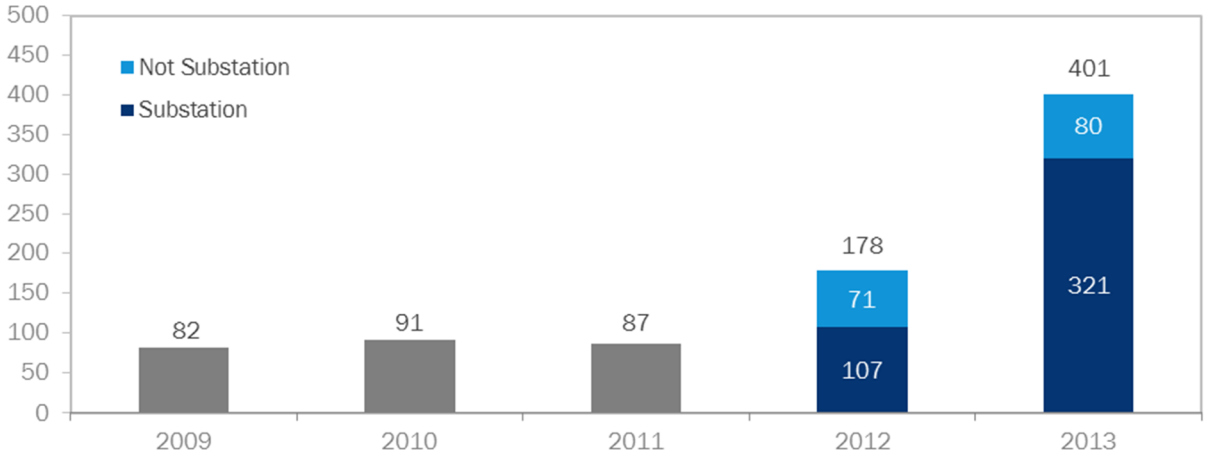
The figure below shows annual participation counts in the towns of Tiverton and Little Compton.[4] Participation in the SRP communities was fairly stable in 2009-2011, with between 82-91 audits per year. In 2012, participation increased to 178 audits. Participation continued to increase in 2013, ending the year with 401 audits overall and 321 audits among Tiverton substation customers, putting the pilot ahead of its projection of 200 audits (among substation customers) for the year.

The total participation for 2013 represents a 125% increase over 2012 totals and 238% over the average participation for the previous three years (2010-2012). In addition, the proportion of audit participants who

[4] Participation counts are based on the number of facilities with site visits in each year (based on Facility ID), where year is determined by the month in which the site visit occurred, and facilities could have had more than one electric account audited (if multifamily). Visits are assigned to a region based on the town name. A very small number of participants may have commercial rate codes.

are served by the substation increased significantly in 2013. In 2013, substation customers comprised 80% of the total participant pool compared to 60% in 2012.

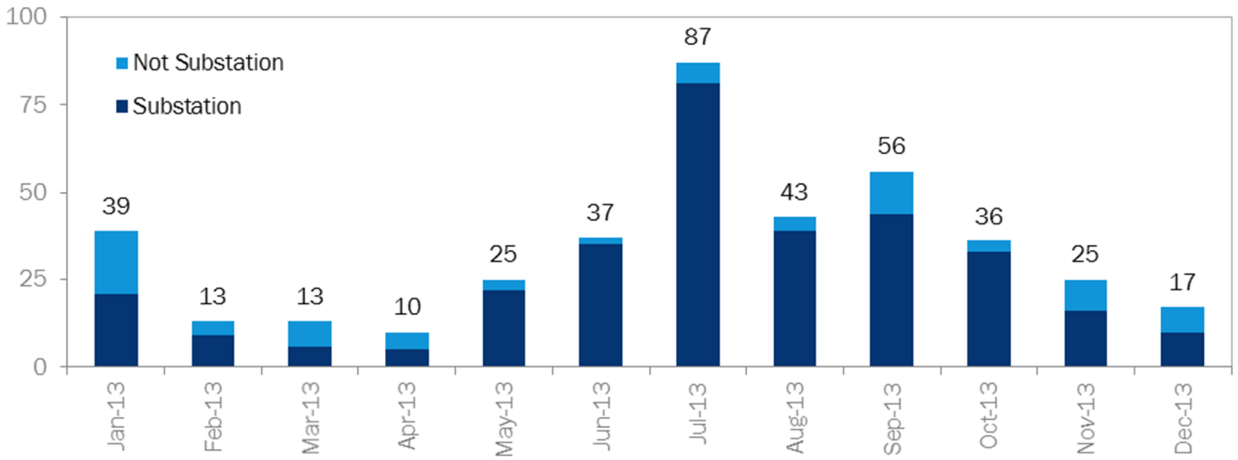
Figure 3-3. EnergyWise Audit Participants in SRP Pilot Communities (2009-2013)[a]



[a] Participant counts are based on the number of unique facilities that participated. More billing accounts may have participated if they were associated with a multifamily facility.

Of the 401 audits completed in 2013, 65% were completed between June and October. July was the busiest month for audits. This timing coincides with direct marketing activities (with some lag expected between scheduling and completing an audit).

Figure 3-4. EnergyWise Audits in SRP Pilot Communities by Month (2013)

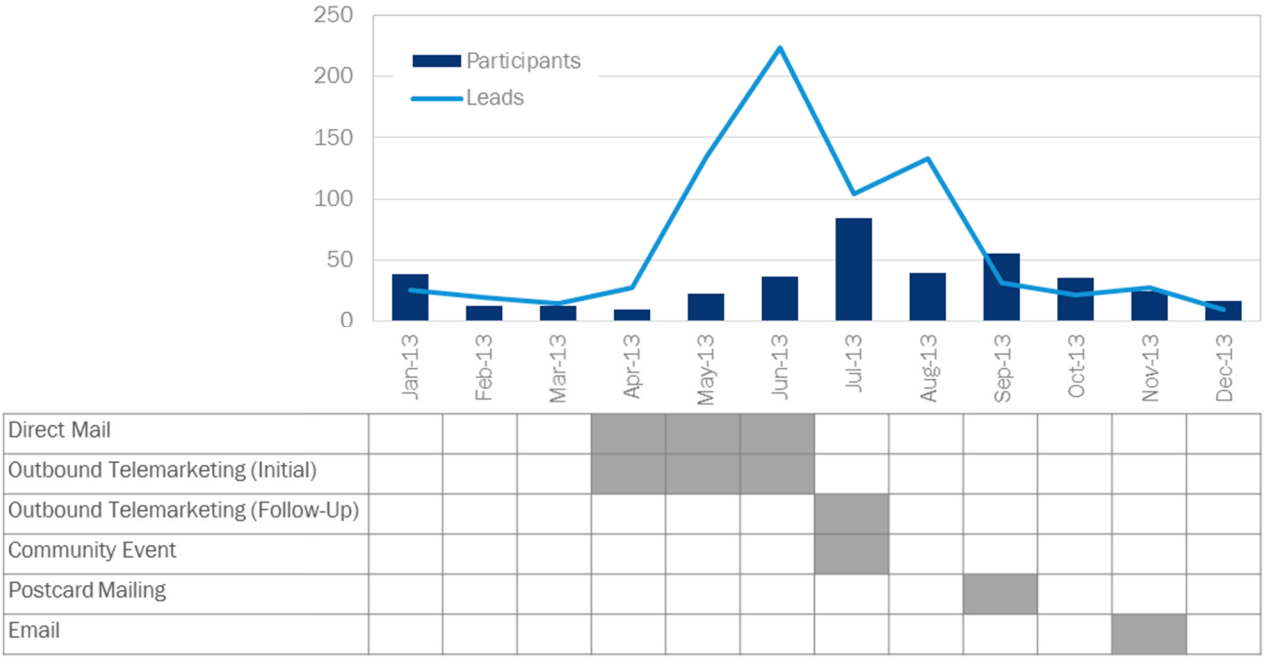


3.2.2 Leads and Inquiries

Audit requests of the program implementer are a potential leading indicator of program participation. Pilot-area customers could sign up for the program through statewide channels, or through telemarketing calls. In 2013, there were 776 leads for the EnergyWise program among Tiverton and Little Compton customers. The majority (80%) of EnergyWise leads came from customers on substation feeders.

May through August were the busiest months for leads, with 595 leads (71% of the annual total) occurring in that period. Lead activity peaked in June with 224 leads (27%) and was followed a month later by a peak in EnergyWise participation. The enhanced telemarketing and direct mail efforts, which coincided with the timing of this peak lead activity, appear to have driven the number of leads between May and August.

Figure 3-5. EnergyWise Leads in Tiverton and Little Compton (2013)



The conversion rate, the ratio of participants to leads, was 52% in 2013, compared to 61% in 2012. This finding may suggest that the increased telemarketing efforts may have elicited interest among customers who may have been slightly less likely to follow through with participation than leads in previous years (who may have learned of the program and proactively signed up). Even with this slight reduction in conversion, EnergyWise participation rates surpassed planning projections.

Table 3-2. EnergyWise Conversion Rate (2012-2013)

EnergyWise	2012	2013
Total Participants	178	401
Total Leads	290	776
Conversion Rate	61%	52%

3.3 DemandLink Programmable Controllable Thermostat Program

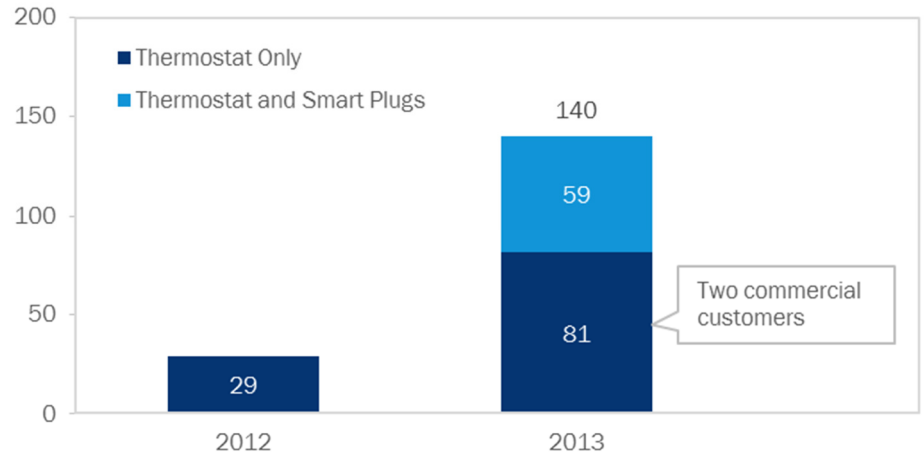
3.3.1 Participants

The figure below shows annual participation counts in the towns of Tiverton and Little Compton in the DemandLink Thermostat and Smart Plug program components. Participation in these program components increased from 29 homes in 2012 to 140 customers (138 homes and two businesses) in 2013. Nearly all participants (98%) had account numbers that link to substation feeders.[5]

In 2012, only customers with central air conditioning were eligible to participate in the program. Beginning in 2013, the pilot expanded the program's equipment offerings to include Smart Plugs, which allow window air conditioning units to be controlled by the DemandLink programmable thermostat. This solution now enables customers with window air conditioning to participate in the demand response program. In 2013, 59 of the 140 participants (41%) installed Smart Plug technology. These customers were all residential.

The participation counts for WiFi programmable thermostat installations among customers with central cooling are in line with participation goals established in late 2012, but the Smart Plug component is slightly below participation goals (see Section 4). However, both components are above 2013 measure installation projections. The pilot established measure installation projections in terms of installed units rather than participants. For 2013, program staff projected installing 50 WiFi programmable thermostats that control central cooling as well as 200 Smart Plugs. The program surpassed measure installation projections of thermostats, installing 127 thermostats in homes or businesses of customers on substation feeders with Central AC. It ended the year below projected installations of Smart Plugs, installing 145 Smart Plugs in substation homes with window or room AC.

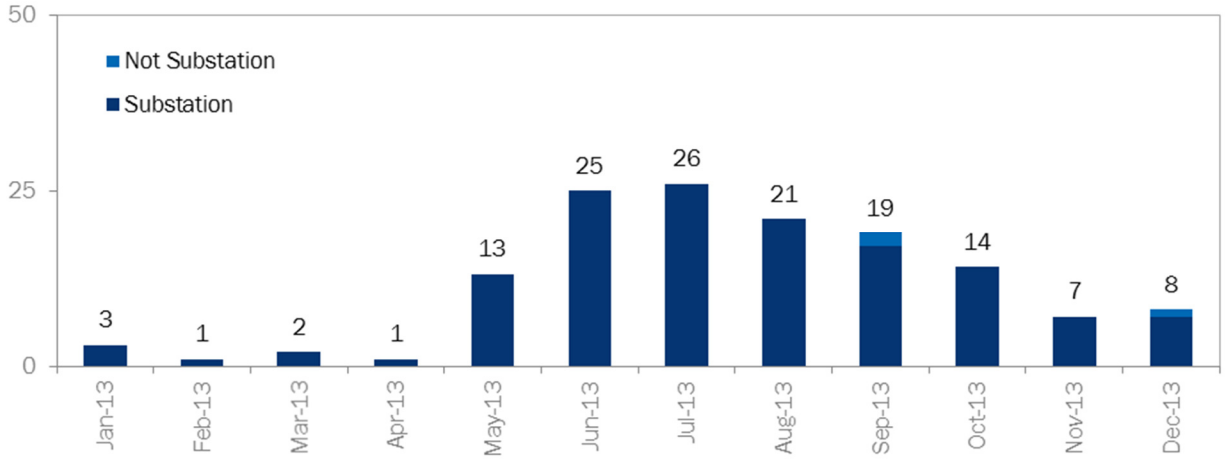
Figure 3-6. DemandLink Thermostat Program Participation in SRP Pilot Communities (2012 and 2013)



[5] Two WiFi programmable thermostat participants (with CAC) and one smart plug participant do not have account numbers; therefore, we cannot positively link them to the Tiverton substation.

June through September were the busiest months for the program (see Figure 3-7 below). In this four-month period, 65% of 2013 participants (91 customers) entered the program. The months with the most participants were June and July.

Figure 3-7. DemandLink Thermostat Program Participation in SRP Pilot Communities (2013)

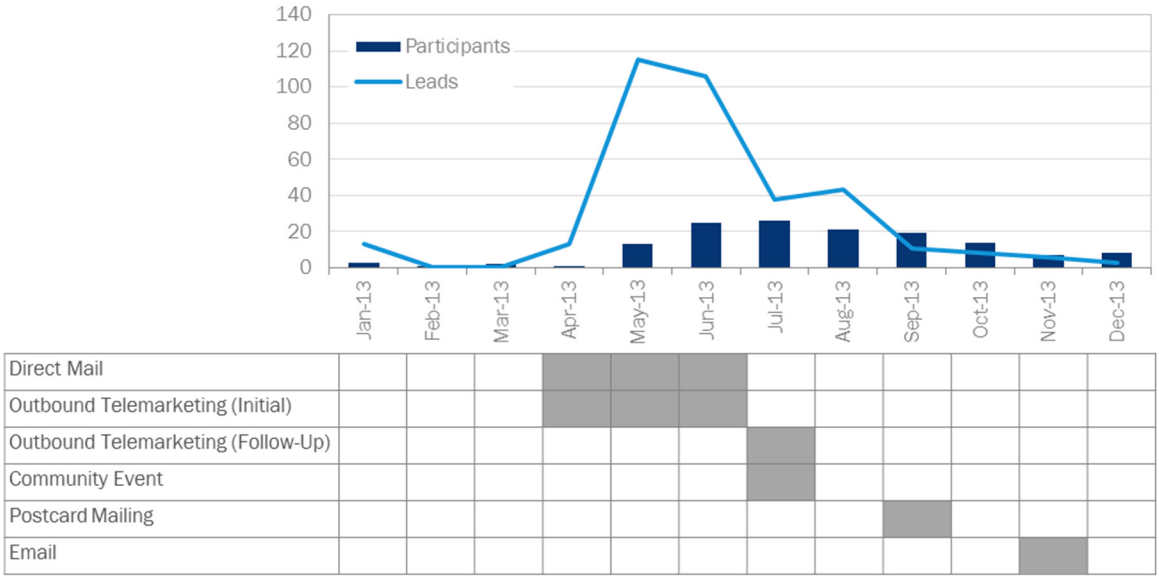


Participants with Central AC in SRP pilot communities each installed up to three thermostats in their homes, averaging 1.6 units per household. Participants with Window AC installed up to five Smart Plugs per household, averaging 2.5 plugs per home. While the pilot intends the plugs to be used with window and room air conditioning units, program tracking does not record whether they are (or will be) used in this manner. The DemandLink participant survey, planned for 2014, will explore which appliances customers are controlling with their Smart Plugs.

3.3.2 Leads

In 2013, 356 customers were classified as DemandLink Thermostat Program leads. Of these, nearly all (98%) were served by the substation. The program had a conversion of 39% of leads to participants in 2013 which is higher than the conversion rate in 2012 (18%). The busiest months for leads were May and June, which combined produced 221 leads (62% of the total). The enhanced telemarketing and direct mail efforts, which began in April and continued through June, coincided with the timing of this peak lead activity and appears to have had an influence on the number of leads. There was also a slight rise in leads again in August, a month after outbound follow-up calls were made.

Figure 3-8. DemandLink Programmable Controllable Thermostat Program Leads in Tiverton and Little Compton (2013)



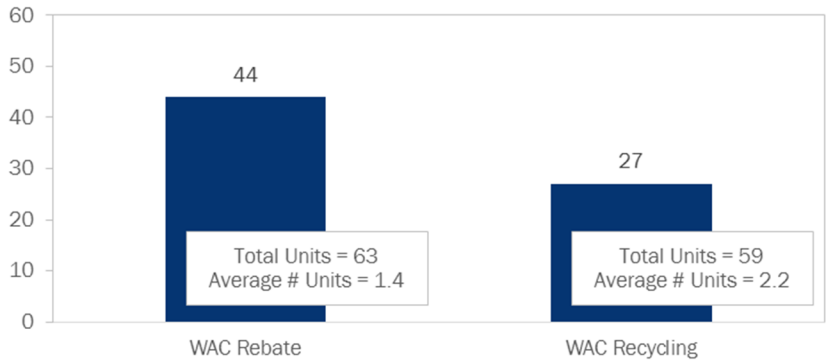
3.4 Window AC Rebate and Recycling

The DemandLink Window Air Conditioner Rebate and Recycling programs ran from May 1 to September 1, 2013. National Grid offered customers in Tiverton and Little Compton a $50 rebate for the purchase of up to four qualifying new window air conditioning units (“WAC Rebate”) and a $25 rebate for each of up to four window air conditioner they recycled (“WAC Recycling”). National Grid first introduced the Window AC Rebate and Recycling programs in marketing collateral in April 2013 and promoted the two programs in all SRP specific marketing efforts in 2013, except for the late September postcard.

3.4.1 Participants

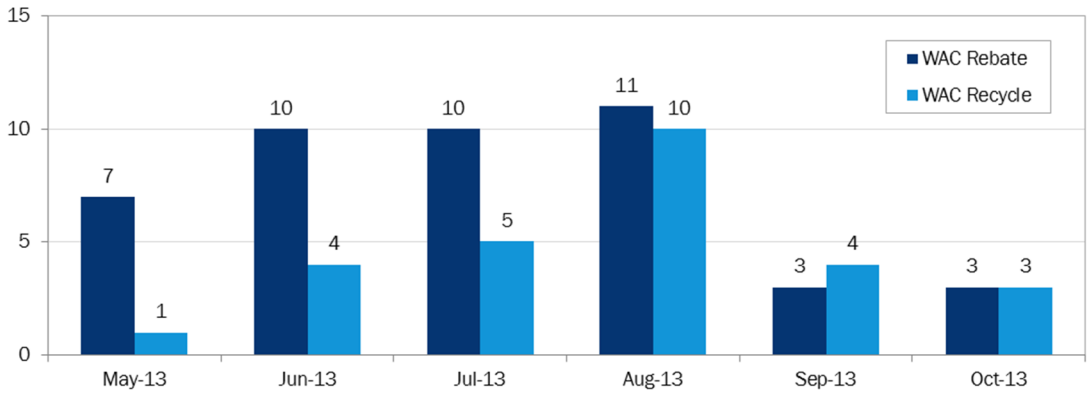
The figure below shows participation counts in the towns of Tiverton and Little Compton during the active program period. During this period 44 customers received rebates for purchasing 63 units while 27 received rebates for recycling 59 old units. Overall, 51 unique customers participated in either the WAC Rebate or WAC Recycling program components. All rebate and recycling program participants were residential customers on sub-feeders. The program fell short of 2013 projections to provide rebates for 250 new ENERGY STAR® rated units and 125 recycled units.

Figure 3-9. Window AC Rebate and Recycling Participation in SRP Pilot Communities (2013)



The majority (70%) of rebates for new ENERGY STAR® rated units were distributed between June and August 2013 (see Figure 3-10 below). August was the busiest month for the recycling component.

Figure 3-10. Window AC Rebate and Recycling Participation in SRP Pilot Communities, by Month (2013)



National Grid promotes these two programs in tandem, with one application for both rebates. Looking at the participation numbers differently, there were fifty-one unique participants between the two programs. As shown in Table 3-3, 39% took part in both programs while the majority (47%) took part only in the rebate for new ENERGY STAR® units. Fewer (14%) only recycled an old unit. On average, customers who participated in both programs recycled more units through the program than they purchased with the rebate. The DemandLink participant survey, planned for 2014, will explore customers' use of units before recycling them as well as their likely use, had they not recycled them through the program.

Table 3-3. Unique Participants, 2013

Program Component	Number of Participants	% Participants	Avg. # units rebated	Avg. # units recycled
ENERGY STAR® Rebate Only	24	47%	1.2	n/a
Recycle Only	7	14%	n/a	2.7
Both	20	39%	1.7	2.0
Total	51	100%	1.4	2.2

3.5 Small Business Direct Install Program

There are nearly 500 commercial accounts on sub-feeders 33 and 34 of the Tiverton substation.[6] The majority of these customers (93%) are small commercial customers. SRP pilot efforts focus on these small commercial customers, with a goal of increasing participation in the Small Business Direct Install (SBDI) and DemandLink offerings.

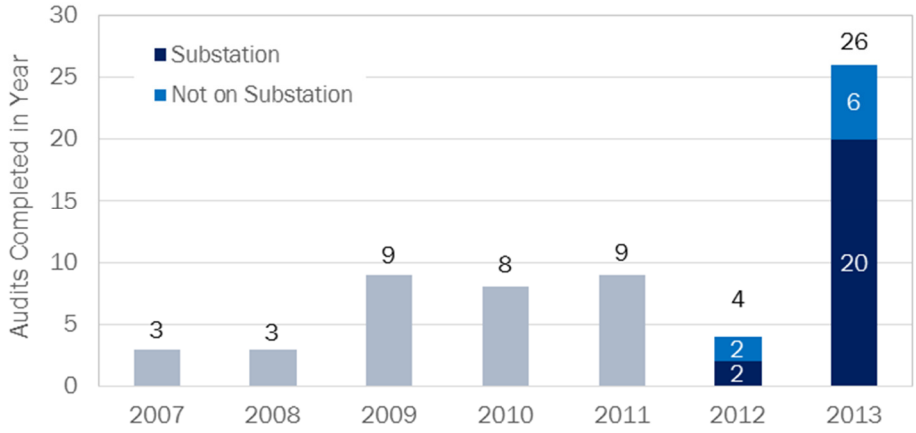
In 2013, outreach to commercial customers consisted of direct mail and direct outreach (via phone) initiated by the SBDI program implementer. Nearly all the 2013 SRP customer communications were identical for both residential and commercial customers.

In May 2013, nearly all 500 commercial addresses in the area received a mailing about DemandLink offerings. Over 300 customers with commercial rate codes were also part of 2013 RAM outbound marketing efforts. However, most commercial customers on the RAM marketing list were not reached through the phone effort: Eleven customers became DemandLink leads, and two installed WiFi programmable thermostats through the, including one customer served by the Tiverton substation.

Participation in the SBDI Program increased substantially in 2013 compared with previous years. There were 26 audit participants in 2013, compared with between four and nine in each of the previous four years. Of these 26 participants, 20 are served by the Tiverton substation that is the target of SRP demand reduction efforts.

[6] For the purpose of this analysis, accountsare classified as commercial based on their rate code. Some of these accounts may not be customers who are capable of participating in programs or reducing load, such as cell phone towers.

Figure 3-11. Annual Small Business Direct Install Audits in SRP Pilot Communities



4. Comparison to Goals and Projections

National Grid's original goals for the pilot (established in early 2012) focused on residential WiFi programmable thermostat installations. At the time that goals were established, the residential WiFi programmable thermostat offering was limited to customers with central air conditioning. When National Grid broadened their 2013 strategy to include customers with window air conditioning, they also revised their participation goals. The most recent residential goal of 96 WiFi programmable thermostat installations by year-end 2013 (among CAC customers) and 200 Smart Plug installations by year-end 2013 (among window/room AC customers) were filed in November 2012. National Grid met, and slightly exceeded, the WiFi programmable thermostat installation goal by installing 99 WiFi programmable thermostats in the homes of central AC customers served by the Tiverton substation through end the of 2013. However, fewer customers than anticipated have installed demand reduction technology for use with window air conditioners: 60 customers served by the Tiverton substation installed window AC Smart Plugs through the end of 2013, compared with a goal of 200.

Table 4-1. Cumulative Participation Goals through 2013 for Demand Reduction Program Offerings

Participant Type	Technology	Cumulative Goal through 2013		Participant Counts	
		Original Participant Goal (February 2012 Plan) [d]	Revised Participant Goal (November 2012 Plan) [c]	Overall Participation Achieved through 2013	Substation Participation Achieved through 2013
Residential with Central AC	WiFi programmable thermostats	250	96	109	99
Residential with Window AC	Window AC Modlets (later known as Smart Plugs)	N/A[a]	200	61	60
	Window AC Rebate or Recycling	N/A[a]	N/A[b]	51	51
Commercial & Industrial	WiFi programmable thermostats	20	14	2	1

Total	All DemandLink	250	296	217[c]	205[c]

[a] National Grid did not establish goals for customers with Window AC in the original pilot plan.

[b] National Grid did not establish demand reduction goals associated with Window AC Rebate or Recycling efforts.

[c] The total reflects the count of unique participants who have participated in any Demand Link offering.

[d] Source: Table S-6 of 2012 System Reliability Plan Report – Supplement. The Narragansett Electric Company. February 1, 2012. Docket number 4296.

[e] Source: Table S-6 of 2013 System Reliability Procurement Report. The Narragansett Electric Company. November 2, 2012. Docket number 4367.

SRP pilot program staff also developed projections of 2013 measure installations for planning purposes. Since these projections are for measure installations, they are distinct from participation goals, as multiple measures could be installed in a single home. The table below outlines projected equipment installations for 2013 compared to reported installations among customers served by the Tiverton substation. Both the EnergyWise and DemandLink Programmable Controllable Thermostat Programs exceeded projections of installed units.

Table 4-2. 2013 Equipment Installations Compared to 2013 Pilot Planning Projections

Program	Measure	2013 Measure Installation Projections	2013 Measures Installed among Substation Customers
EnergyWise Home Energy Assessment	Energy Audit	200	321
DemandLink Programmable Controllable Thermostat Program	Thermostats for Central AC customers	50	127[a]
	Smart Plugs for Window AC customers	200	145
DemandLink Window Air Conditioner Rebate and Recycling Program	New ENERGY STAR® Window AC Units	250	63
	Recycled Window AC Units	125	59

[a] This count includes two thermostats installed by commercial customers.

At the outset of 2013, program staff knew that it may be harder to reach customers with central air conditioning, but did not have much information on the penetration of window and room air conditioning among pilot-area customers, nor the potential difficulty in reaching these customers. Information on the penetration of central and window/room air conditioning among 2013 leads in Appendix A shows that penetration rates among leads appears to be in line with statewide averages for both types of equipment.

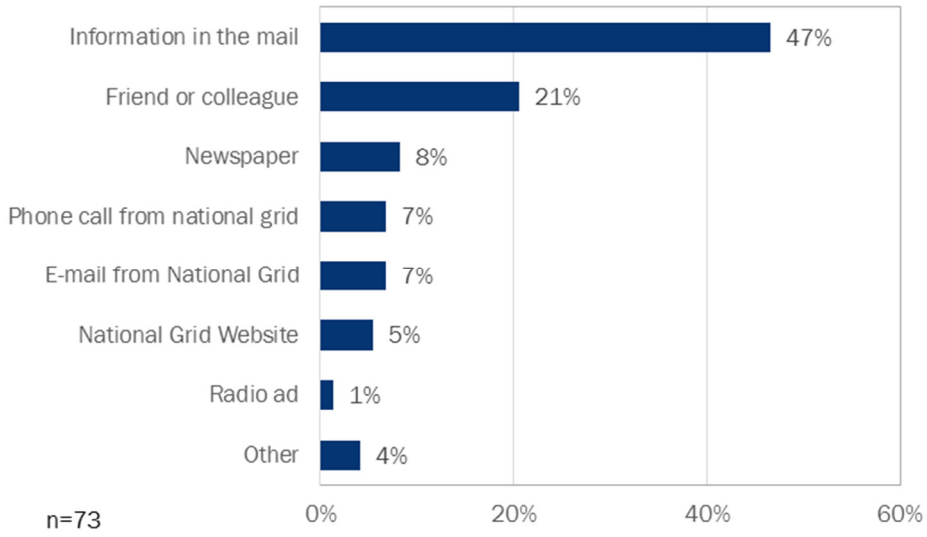
5. EnergyWise Survey Findings on Awareness and Influence

The EnergyWise participant survey is an ongoing evaluation effort that will provide both process and impact insights. The primary goal of the survey is to determine an SRP marketing influence rate or “take rate” that will be used to estimate incremental participation in the EnergyWise program. This rate will be calculated and reported for the first time in 2014 as part of the program year 2012-2013 Focused Energy Efficiency

impact evaluation.[7] Below, we report on survey findings from a process evaluation perspective, to provide National Grid with initial feedback on marketing awareness, recall, and influence.

As shown in the figure below, respondents most commonly report they first became aware of the EnergyWise Program through information they received in the mail (47%) and via word-of-mouth from a friend or colleague (21%).

Figure 5-1. How did you first become aware of the EnergyWise Home Energy Assessment and the energy efficiency improvements available from National Grid?



Consistent with this finding, respondents' recall of direct mail was relatively high.[8] In the two versions of the survey fielded to date, recall of the direct mail pieces associated with the DemandLink Program was the highest of all marketing materials about which we inquired (51% in Version 1 and 71% in Version 2). In contrast, recall of the direct mail pieces associated with the statewide programs was much lower (27% in Version 1 and 36% in Version 2).

The top four most memorable marketing materials among Version 1 survey respondents were the SRP-specific direct mail (51%), radio commercials (42%), phone calls from National Grid (41%), and the article in the Patch (35%). The most memorable marketing materials among Version 2 survey respondents were the DemandLink specific direct mail (71%), phone calls from National Grid (69%), and the EnergyWise specific direct mail (36%). Respondents to Version 1 of the survey recalled statewide banner ads, Twitter posts, and paid search least frequently. Respondents to Version 2 of the survey recalled Twitter posts, Facebook posts, and cinema ads least frequently.

[7] This report will estimate impacts for the 2012-2013 program.

[8] Each respondent was only asked about marketing efforts that took place in the six months prior to their becoming a lead.

Table 5-1. Summary of Recall and Influence of Marketing Materials: Survey Version 1

Marketing Effort	Campaign	Recall of Marketing Effort		Influence of 4 or 5 (of those who Recalled the Effort)	
		#	%	#	%
Direct Mail (n=35)	SRP	18	51%	11	61%
Radio (n=19)	Statewide	8	42%	2	25%
Phone Calls (n=37)	SRP	15	41%	5	33%
Article in Little Compton/ Tiverton Patch (n=37)	SRP	13	35%	6	46%
Direct Mail (n=37)	Statewide	10	27%	5	50%
Facebook Ads (n=24)	SRP	5	21%	5	40%
Email (n=24)	SRP	4	17%	2	50%
Email (n=37)	Statewide	4	11%	1	25%
Newspaper (n=37)	Statewide	4	11%	1	25%
Facebook Posts (n=37)	SRP	3	8%	1	33%
Paid Search Ads (n=19)	SRP	1	5%	0	0%
Twitter Posts (n=19)	SRP	-	0%	-	-
Online Banner Ads (n=33)	Statewide	-	0%	-	-

Table 5-2. Summary of Recall and Influence of Marketing Materials: Survey Version 2

Marketing Effort	Campaign	Recall of Marketing Effort		Influence of 4 or 5 (of those who Recalled the Effort)	
		#	Recall	#	Influence 4 or 5
Direct Mail (n=35)	SRP	25	71%	17	68%
Phone (n=36)	SRP	25	69%	18	72%
Direct Mail (n=37)	Statewide	13	36%	7	54%
Newspaper (n=36)	Statewide	9	25%	3	33%
Radio (n=36)	Statewide	9	25%	3	33%
Energy Awareness Day (n=28)	SRP	5	18%	4	80%
Paid Search Ads (n=36)	SRP	7	19%	3	43%
Facebook Ads (n=36)	SRP	6	17%	3	50%
Online Banner Ads (n=36)	Statewide	6	17%	2	33%
Email (n=36)	Statewide	3	8%	2	67%
Facebook Posts (n=36)	SRP	1	3%	0	0%
Twitter Posts (n=36)	SRP	0	0%	-	-
Cinema (n=36)	Statewide	0	0%	-	-

Detailed tables displaying the recall and influence of each marketing effort based on the EnergyWise survey are included in Appendix B.

6. Focus Group Findings

Opinion Dynamics conducted two focus groups on November 13, 2013 with residential customers in Tiverton and Little Compton. We selected participants who 1) have been the target of increased SRP marketing, 2) were eligible to participate in the DemandLink Programmable Controllable Thermostat program (they had wireless internet and either Window AC or Central AC and in their home), but 3) had not yet participated in a DemandLink program. The research team recruited a mix of participants based on their level of prior engagement with the program. The table below summarizes the level of program engagement of focus group participants.

Table 6-1 Summary of Focus Group Participants by Program Engagement Level

Level of Engagement	DemandLink Non-Participant Type	Number of Participants
Non-Engaged Customers	RAM did not reach	**1**
	RAM reached but did not convert to any program	**4**
Semi-Engaged Customers who have not participated in DemandLink	DemandLink Leads (DL or DL + EW) *before* Sept 1, but have not yet participated in DemandLink	**4**
	EnergyWise or Window AC participants during SRP period who have not participated nor become a lead for DL	**2**
	EW Only Leads during SRP period but *before* Sept 1 who may have WAC or CAC, but have not yet participated in anything	**1**
Total		**12**

Three-quarters of focus group participants had window air conditioning and about a third had central air conditioning. Additionally, participants represented Tiverton and Little Compton equally.

6.1 Key Findings

Clarity of Program Offerings

The focus groups revealed that marketing materials for the DemandLink Programmable Controllable Thermostat program did not provide customers with a clear understanding of the program. While participants generally understood that equipment would be provided to them through the program, the concept that they would have to participate in demand response events and that the equipment would facilitate participation in these events was lost almost completely.

Barriers to Participation

The discussions revealed a number of common barriers to participation in the DemandLink program. Initial hurdles include participants' general lack of understanding of how the program works, what the main benefits are, and how those benefits apply to them. In addition, participants voiced common technical concerns including how the equipment would interface with their existing HVAC systems and whether they use their window AC enough to qualify for the program or to justify the need of supplemental equipment to automate a cooling schedule. Participants were wary of losing their control over their cooling and perceived the incentive amount as low relative to the loss of control they may endure.

Drivers to Participation

Participants had mixed feedback on hypothetical reasons for participating in the DemandLink Program. A few participants asked about the possibility of using the thermostat to remotely control their heating. They seemed less interested in remotely controlling their cooling system, which many did not perceive to be a significant expense, and thought the equipment might be valuable if it could also control heating. Once the moderator gave the groups an explanation of why National Grid was offering the DemandLink program in their communities, they also appeared to be receptive to taking a proactive stance to improving grid reliability.

Messaging

While participants were mixed on the appeal of various messages, there was a clear interest in a more transparent message. National Grid should consider building a narrative around why they are offering this program, why Little Compton and Tiverton are being targeted, what the demand response component of the program entails, and how it relates to the provided equipment.

National Grid may want to consider highlighting the ability of the programmable controllable thermostat to control heat in addition to cooling remotely and the possibility of being able to save money on both.

Additionally, one of the main findings from both groups is that participants have many complex questions about how the DemandLink program and the related equipment work that may not all be possible to address in a single marketing piece. National Grid may want to consider putting together a "frequently asked questions" document or webpage to supplement the information they cannot fit into DemandLink marketing materials.

Detailed findings from the focus groups are included in Appendix C.

7. Discussion and Recommendations

In its second year of implementation, participation in National Grid's EnergyWise program exceeded planning projections. The pilot also met residential WiFi thermostat planning projections and participation goals among participants with central air conditioning (CAC), even after a slow first year: While DemandLink participation did not meet 2012 goals, participation levels in 2013 brought cumulative participation from 2012-2013 in line with goals. However, participation among customers with window AC was generally lower than expected across all program components: The pilot did not meet participation goals or measure installation projections for DemandLink Smart Plug installations, nor did it meet planning projections for the window AC rebate and recycling efforts.

The pilot's success in reaching DemandLink WiFi programmable thermostat goals for CAC customers and exceeding EnergyWise participation goals suggests that the combination of ramp-up efforts in 2012 and direct marketing in 2013 were effective in 1) increasing awareness and knowledge of those program offerings and 2) encouraging participation. However, this was the first year that the program offered and marketed window air conditioning measures to customers. Based on the results for CAC-related DemandLink WiFi programmable thermostat over the past two years, some ramp-up period in measure adoption may be expected among window air conditioning customers.

Still, there is some evidence, based on focus groups, that some customers may not understand the program design or the benefits of the DemandLink WiFi programmable thermostat offerings (with and without Smart Plugs). In addition, some customers with window AC appeared skeptical about how the Smart Plug technology would add value when coupled with their current usage behaviors, which they perceived as not requiring automation. Other customers appeared unsure if the time it takes to participate would outweigh the benefits. These customers may perceive the benefits as greater if they understand how the equipment may be used with other systems or appliances, including home heating. These findings suggest that efforts in the third program year should continue to streamline and clarify these offerings for customers, while maintaining transparency regarding the reason for conducting the pilot.

With respect to the lower-than-expected uptake of window air conditioning and recycling rebates, the program did not market or offer these rebates until the middle of 2013. Based on results from this first year of window AC offerings, it is too early to conclude whether these offerings will succeed in meeting longer-term participation objectives. Window AC penetration rates among program leads are in line with statewide averages, suggesting that the technical opportunity to participate may exist among customers in the pilot area (though the ability to realize expected savings through window AC measures is yet to be determined).

The dual-pronged direct marketing strategy that began in spring 2013 – a combination of direct mail and telemarketing – seems to have been effective in generating leads and increasing program participation in EnergyWise and DemandLink offerings. Leads increased dramatically during the telemarketing period, and the majority of these leads were among customers fed by the Tiverton substation, who were the target of telemarketing efforts. Nearly half (47%) of surveyed EnergyWise participants indicated that they first heard of the program through direct mail – a greater proportion than reported first learning about the program from an outbound phone call – suggesting that the mailings were effective in introducing customers to the program before they received a call.

Appendix A: Cooling Equipment Penetration Rates

The original SRP pilot plan established relatively high goals for WiFi programmable thermostat installations, originally planned for homes with Central AC. Based on 2012 success metrics and evaluation findings regarding Central AC penetration, National Grid expanded its offerings for customers without Central Air Conditioning, including Smart Plugs, window air conditioning rebates, and window air conditioning recycling.

In this appendix, we present an update on central AC penetration rate estimates in the pilot area. Since WiFi Programmable Controllable Thermostat installation among customers with central AC is still a key component of National Grid's load reduction strategy, it is instructive to look at the incidence of central air conditioning in the pilot area to understand the future potential of WiFi thermostat participation. A single, definitive source of this information is not available, but based on updated data for EnergyWise and DemandLink program leads, the penetration of central air conditioning appears similar in the pilot towns and Rhode Island overall.

- For the state of Rhode Island, National Grid estimates a central air conditioning penetration rate of 32% and window air penetration rate of 53%.[9]
- The CAC penetration rate among all leads (31%; for EnergyWise and DemandLink) is in line with the statewide average (Table A-1).
    - Central air conditioning penetration rates among customers who have expressed interest in demand-side management offerings are slightly higher.
- The Window AC penetration rate among all leads (56%; for EnergyWise and Demand Link) is slightly higher than the statewide average (Table A-2).

Though we do not know if these rates are representative of the overall Tiverton and Little Compton population, these findings indicate that the program is succeeding in reaching customers with relevant cooling equipment. Note that the central AC penetration rate among EnergyWise leads was lower during 2010-2012 (23%).

Table A-1. Central AC Penetration Rates among Tiverton and Little Compton Leads (2012-2013)

Success Metrics	Leads	Leads Asked about CAC[a]	By Location		By Year		Overall Penetration
			Not Served by Substation	Served by Substation	2012	2013	
All Leads	1,105	877	16%	34%	30%	31%	31%
EnergyWise Leads	1,066	838	15%	34%	29%	32%	31%
DemandLink Leads	520	520	23%	39%	38%	37%	37%
Leads from RAM effort	565	565	n/a	33%	n/a	33%	33%

[a] Not all leads were asked whether their home had Central AC in 2012-2013, therefore the overall N does not equal the n asked. Though questions about air conditioning were part of the RAM script, customers who inquired through statewide program channels (i.e., the EnergyWise program implementer) may not have been asked the same questions.

[9] Page 8 of SRP proposal to RIPUC

The DemandLink program implementer, RISE Engineering, began collecting information on the penetration of window or room air conditioning in 2012. The marketing partner, RAM, also collected information on the penetration of window or room air conditioning throughout 2013. Because RAM marketing activities focused on customers served by the Tiverton substation, window/room AC penetration rates shown below (Table A-2) reflect penetration rates among Tiverton substation leads.

Table A-2. Window/Room AC Penetration Rates among Tiverton and Little Compton Leads (2012-2013)

Success Metrics	Leads	Leads Asked about WAC[a]	By Year		Overall Penetration[c]
			2012[b]	2013	
All Leads	1,105	567	45%	56%	56%
EnergyWise Leads	1,066	528	47%	54%	54%
DemandLink Leads	520	364	35%	63%	61%
Leads from RAM effort	565	565	n/a	56%	56%

[a] Not all leads were asked whether their home had Window AC in 2012-2013, therefore the overall N does not equal the n asked.

[b] Sample sizes in 2012 are very small (30 or fewer customers per row)

[c] The overall percentage applies primarily to customers on the Tiverton substation, as RAM marketing activities focused on Tiverton substation customers, and window AC information was collected primarily through RAM activities.

Appendix B: EnergyWise Survey Marketing Awareness & Influence Details

To date, the Evaluation Team has fielded two versions of an online survey among EnergyWise participants in Tiverton and Little Compton. Both versions of the survey explored recall and influence of statewide and pilot-specific marketing and outreach efforts; drivers for participation in the EnergyWise and DemandLink programs; and levels of satisfaction with DemandLink thermostat equipment. The second version also included questions about usage patterns and levels of satisfaction with DemandLink thermostat and Smart Plug equipment.

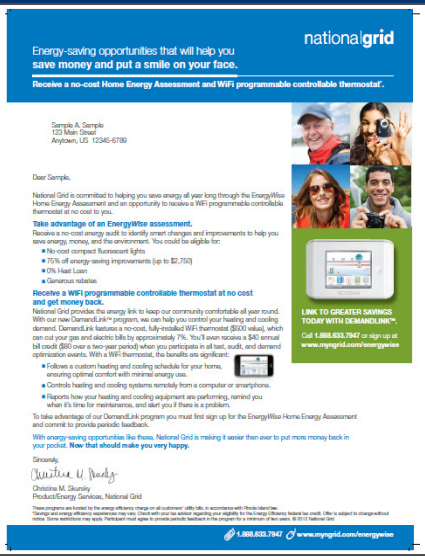
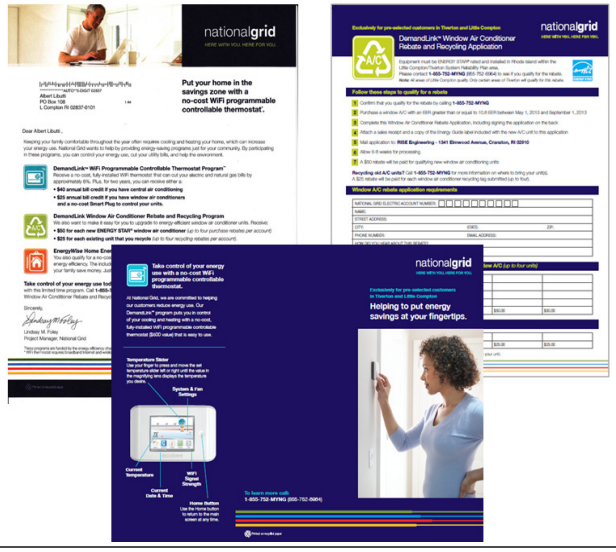
We fielded the first version of the survey among 196 participants who 1) participated in the EnergyWise program between January 1, 2012 and April 16, 2013 and 2) had a valid email address. We fielded the second version of the survey, which included updated marketing materials, in October 2013 and again in March 2014, among 147 customers who participated between April 16, 2013 and December 17, 2013. Across both survey versions, a total of 77 participants completed the survey.

7.1.1 Recall and Influence of DemandLink Specific Marketing

We provided survey respondents with images and descriptions of various marketing efforts they had been exposed to and asked them if they recalled seeing, hearing or receiving each item.[10] If respondents could recall a marketing piece, we asked them to rate the level of influence it had on their decision to complete the home energy assessment. The following tables describe recall and influence of marketing specific to the DemandLink campaign. The next section describes recall and influence of statewide marketing efforts.

[10] Each respondent was only asked about marketing efforts that took place in the six months prior to their becoming a lead.

Direct Mail

Version 1	Version 2
	
June 2012	Late April – June 2013

	Version 1	Version 2	Total
Recall			
Yes, I recall receiving this	51%	71%	61%
n	35	35	70
Influence			
Not Influential (1-2)	22%	8%	14%
Moderately Influential (3)	17%	24%	21%
Very Influential (4-5)	61%	68%	65%
n	18	25	43

Email Outreach

Version 1

September 2012

	Version 1
Recall	
Yes, I recall receiving this	17%
n	24
Influence	
Not Influential (1-2)	25%
Moderately Influential (3)	25%
Very Influential (4-5)	50%
n	4

Newspaper Article

Version 1
Article in the Tiverton-Little Compton Patch. This article described how National Grid customers in Little Compton and Tiverton would be the first in the state getting the option to participate in a pilot program where participants get a WiFi programmable controllable thermostat and receive a credit for participating in demand response events.
May 2012

	Version 1
Recall	
Yes, I recall seeing this	35%
n	37
Influence	
Not Influential (1-2)	31%
Moderately Influential (3)	23%
Very Influential (4-5)	46%
n	13

Postcard

Version 2

September 2013

	Version 2
Recall	
Yes, I recall receiving this	50%
n	2
Influence	
Not Influential (1-2)	0%
Moderately Influential (3)	100%
Very Influential (4-5)	0%
n	1

Phone

Version 1	Version 2
Do you recall being contacted by phone by National Grid about the opportunity to sign up for a free Home Energy Assessment and receive a no-cost, fully installed WiFi Programmable thermostat?	Do you recall being contacted by phone by a National Grid representative about opportunities for reducing energy costs in your home?
August-September 2012	Late April-August 2013

	Version 1	Version 2	Total
Recall			
Yes, I recall receiving this	41%	69%	55%
n	37	36	73
Influence			
Not Influential (1-2)	47%	8%	23%
Moderately Influential (3)	20%	20%	20%
Very Influential (4-5)	33%	72%	58%
n	15	25	40

Community Event

Version 2
National Grid hosted an Energy Awareness Day at Muddy Moose Café in Tiverton on July 16th 2013. This event featured energy experts who were available to discuss ways to save money by participating in National Grid's DemandLink programs. Did you attend this event?
July 2013

	Version 2
Recall	
Yes	18%
n	28
Influence	
Not Influential (1-2)	20%
Moderately Influential (3)	80%
Very Influential (4-5)	0%
n	5

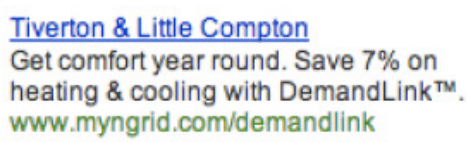
Facebook Ads

Versions 1 & 2

September-December 2012

	Version 1	Version 2	Total
Recall			
Yes	21%	17%	18%
n	24	36	60
Influence			
Not Influential (1-2)	40%	17%	27%
Moderately Influential (3)	20%	33%	27%
Very Influential (4-5)	40%	50%	45%
n	5	6	11

Paid Search

Versions 1 & 2

October-November 2012

	Version 1	Version 2	Total
Recall			
Yes	5%	19%	15%
n	19	36	55
Influence			
Not Influential (1-2)	100%	0%	13%
Moderately Influential (3)	0%	57%	50%
Very Influential (4-5)	0%	43%	38%
n	1	7	8

Facebook Posts

Versions 1 & 2
May-December 2012

	Version 1	Version 2	Total
Recall			
Yes	8%	3%	5%
n	37	36	73
Influence			
Not Influential (1-2)	0%	0%	0%
Moderately Influential (3)	67%	100%	75%
Very Influential (4-5)	33%	0%	25%
n	3	1	4

Twitter Posts

Versions 1 & 2
October-November 2012

	Version 1	Version 2	Total
Recall			
Yes	0%	0%	0%
n	19	36	55
Influence			
Not Influential (1-2)	-	-	-
Moderately Influential (3)	-	-	-
Very Influential (4-5)	-	-	-
n	-	-	-

7.1.2 Recall and Influence of Statewide Marketing

The following tables describe recall and influence of marketing specific to statewide marketing efforts.

Direct Mail

Version 1	Version 2
	
May-October 2012	April 2013

	Version 1	Version 2	Total
Recall			
Yes, I recall receiving this	27%	36%	32%
n	37	36	73
Influence			
Not Influential (1-2)	50%	8%	26%
Moderately Influential (3)	0%	38%	22%
Very Influential (4-5)	50%	54%	52%
n	10	13	23

Email

Version 1	Version 2
	
	April 2013

	Version 1	Version 2	Total
Recall			
Yes, I recall receiving this	11%	8%	10%
n	37	36	73
Influence			
Not Influential (1-2)	50%	0%	29%
Moderately Influential (3)	25%	33%	29%
Very Influential (4-5)	25%	67%	14%
n	4	3	7

Radio

Version 1	Version 2
Between October and December of 2012, National Grid aired a series of radio spots promoting the availability of energy savings programs for every person in Rhode Island. These spots featured various groups of Rhode Islanders – for example, hockey players, dog owners, gardeners, sports fans, and grill masters – visiting National Grid's offices.	In April, National Grid began airing a series of radio spots promoting the 24 ways National Grid can help Rhode Islanders save energy and money on energy bills. These spots featured National Grid asking Rhode Islanders questions about the state– for example, "Can you name Rhode Island's state tree", "Can you name the states that border Rhode Island" and "Can you name the company that has 24 ways Rhode Islanders can save money?"
October-December 2012	April-September 2013

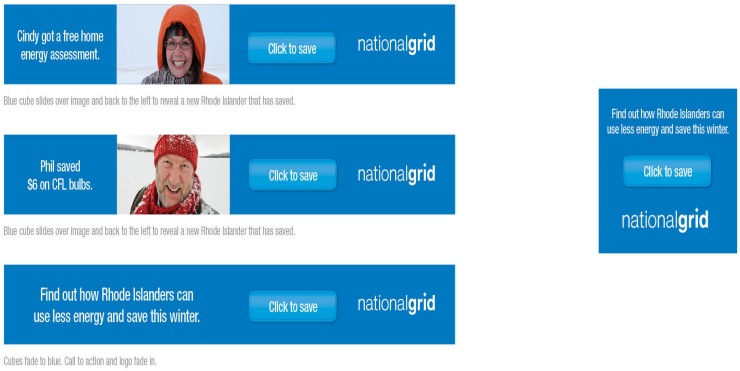
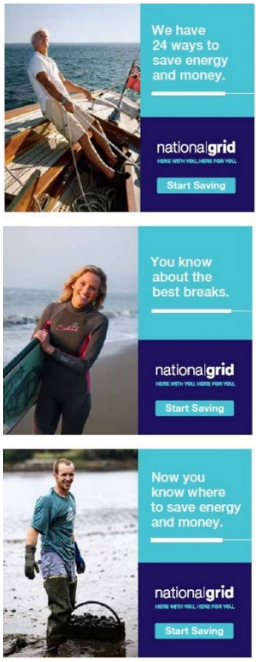
	Version 1	Version 2	Total
Recall			
Yes, I recall receiving this	42%	25%	31%
n	19	36	55
Influence			
Not Influential (1-2)	38%	33%	35%
Moderately Influential (3)	38%	33%	35%
Very Influential (4-5)	25%	33%	29%
n	8	9	17

Newspaper Ads

Version 1	Version 2
	
Winter/Spring 2012	April-September 2013

	Version 1	Version 2	Total
Recall			
Yes, I recall receiving this	11%	25%	18%
n	37	36	73
Influence			
Not Influential (1-2)	50%	56%	54%
Moderately Influential (3)	25%	11%	15%
Very Influential (4-5)	25%	33%	31%
n	4	9	13

Banner Ads

Version 1	Version 2
	
Winter/Spring 2012	April-September 2013

	Version 1	Version 2	Total
Recall			
Yes	0%	17%	9%
n	33	36	69
Influence			
Not Influential (1-2)	-	50%	50%
Moderately Influential (3)	-	17%	17%
Very Influential (4-5)	-	33%	33%
n	-	6	6

Cinema

Version 2
Ads at the cinema before a movie featuring trivia questions– for example, “Do you know how many islands are in Rhode Island” and “How many ways can Rhode Islanders save energy with National Grid?”
May-August 2013

	Version 2
Recall	
Yes	0%
n	36
Influence	
Not Influential (1-2)	0
Moderately Influential (3)	0
Very Influential (4-5)	0
n	0

Appendix C: Focus Group Findings Details

7.1.3 DemandLink Programmable Controllable Thermostat Program

This section provides findings and example of participant questions and comments for each component of the conversation, organized around the focus group discussion guide.

Top of Mind Awareness of "DemandLink"

We asked participants to provide top-of the mind associations with the term DemandLink.

- Top-of-mind awareness of the DemandLink Program is low - none of the participants recalled hearing the term DemandLink prior to the focus groups.
- At the same time, none of the participants had any negative connotations with the term "DemandLink"

The moderator provided focus group participants with marketing materials describing the DemandLink Programmable Controllable Thermostat Program – materials that they should have received in the mail between April and June 2013. The moderator asked the participants to look over the materials, rate them based on the level of clarity of the description of equipment, how to receive the bill credit, who is eligible to participate and how to sign up or learn more, and share any outstanding questions. The moderator then provided participants with a thorough explanation of the program and fielded a second round of questions. Participants discussed a number of questions and areas of uncertainty regarding these materials, summarized below.

Clarity of Concepts: Program Equipment

- Participants thought the explanation of the DemandLink Thermostat and Smart Plug provided in the DemandLink marketing materials were either clear (5 participants) or somewhat unclear (7).
- Participants questioned how the individual pieces of DemandLink equipment relate to one another and other HVAC systems in their home. Some of their questions included:
  - *Will a participant be able to control their heat using the DemandLink thermostat?*
  - *Will a participant be able to control their heat using the DemandLink thermostat if they have window AC?*
  - *How does the Smart Plug relate to the thermostat?*
  - *Is the Smart Plug intended to work with window units, Central AC or both?*
  - *What is the maximum functional distance between the thermostat and Smart Plug?*
- Participants were unclear about value added by the DemandLink equipment. For example:
  - *How is the program thermostat different from other programmable thermostats people already have in their homes? Does it have an additional benefit?*

- *How does the Smart Plug make controlling the temperature easier than just turning the A/C unit on or off or using automatic temperature controls on the unit?*

- Once the moderator clarified the Demand Optimization aspect of the program, participants wondered how the program works if there are multiple thermostats in the home. For example:
  - *Will the program thermostats replace all of the existing thermostats in the home? If National Grid calls a demand optimization event, can I turn the other non-DemandLink controlled AC zones or units on?*

Clarity of concepts: What you need to do to receive the annual bill credit

- When we asked participants about the level of clarity of what they would need to do to receive the annual bill credit, all but two claimed that it was clear. Upon further probing, it became apparent that participants' narrative of "participation" differed from actual participation activities. Participants loosely described participation as receiving equipment to control their air conditioning system and did not mention agreeing to allow National Grid access the equipment for Demand Optimization events.

- Further discussion uncovered uncertainty among focus group participants about their understanding of "participation":
  - How does the thermostat cut costs?
  - What are the benefits to the customer for participating?
  - How does National Grid benefit from participation?

- A few customers questioned if anyone else has control over the thermostat. These participants tended to be more knowledgeable about the energy industry.

- There was a noticeable lack of awareness and understanding of the program's demand optimization component and technical terminology.

Clarity of concepts: Demand Response Component

- The moderator fielded questions from focus group participants after providing them with a detailed description of the DemandLink Programmable Controllable Thermostat Program. Questions included:
  - *How long would an event last?*
  - *Will National Grid stagger the events across participants?*
  - *Will National Grid have control over my heat too?*
  - *How will I know when an optimization event has been called? (Is there an indicator on the Smart Plug that identifies when an event is occurring?)*
  - *How difficult is it to opt out?*
  - *If a participant opts out are they required to return the equipment?*

Clarity of concepts: Eligibility and How to Sign Up

- Participants reported a full understanding of who is eligible for the program (all 12 said it was clear). However, some questions and concerns did come up in the discussion.
- Some expressed uncertainty regarding whether their limited use of their air conditioner would affect their eligibility for the program.
- Participants in both groups expressed confusion about why Little Compton and Tiverton were the program's target, believing these areas do not use much energy.
- After receiving a full program description from the moderator, a handful of participants in the groups voiced concerned about National Grid's action of targeting their community for a program that would require participants to compromise comfort. They cite other businesses treating Little Compton and Tiverton as "expendable" in the past.
- Participants did not have questions about how to sign up for DemandLink.
- There was some interest in a website with more information about the program.

Barriers to Participation

- Once they had received a detailed description of the DemandLink Programmable Controllable Thermostat Program, the moderator asked participants to discuss the concerns they might have about participating. Concerns included:
  - Loss of control over cooling.
  - Length of a time a demand optimization event lasts. For example:
    - *"Well, I think if you get one of these demand optimization events how long might they power you down? I mean it's one thing if they power you down for a short period of time, but if you're in the middle of a two to three day humid event and they're going to be shutting you down for a long period of time, that's another matter."*
  - Length of time a demand optimization event lasts relative to the amount of space being cooled:
    - *"…We just have these two small window units…They're not powerful it's just enough to take the real - the heat out. So, a half hour of that being off might be a lot more than a whole house that's already cooled with the central air being off for a half an hour."*
- Participants also expressed concern about the ability to opt out and potential level of involvement that would be required to do so. Concerns included:
  - *Would a customer need to return the thermostat?*
  - *If so, would customer need to pay someone to swap out the program thermostat for the original thermostat?)*

- Participants perceived the incentive amount as low relative to the loss of temperature control they may endure.
- There was also some uncertainty among participants about whether or not the program would be compatible with the home's heating and cooling setup.

Benefits of Participation

The moderator asked participants to discuss the benefits and other aspects of the program they found appealing. Participants expressed mixed thoughts on the benefits.

- Participants found the following to be appealing:
  - Equipment's (potential) ability to control heating: A few participants asked about the possibility of using the thermostat to remotely control their heating, and thought the equipment might be valuable if it could also control heating. They seemed less interested in remotely controlling their cooling system.
  - Some participants also mentioned the appeal of avoiding brownouts and other peak load problems by allowing National Grid to manage loads in the community.

Messaging

- There is an interest in messaging with more transparency. Once the focus group participants were made aware of the Demand Optimization Event aspect of the program and had an understanding of why their communities were selected as the target of the program they identified the two as a critical pieces of the program's narrative that should be more apparent in the program's informational materials.

Motivators to Participation

We presented focus group participants with a list of arguments for why someone might choose to participate in the DemandLink programs. We asked them to list the top two that resonated most with them and with what they thought would resonate with people in in their community. Responses were mixed:

Table C-1. Motivators to Participation

Hypothetical Reason for Participating in DemandLink	Ranked as First Motivator	Ranked as Second Motivator	*Total n*
Lower energy bill for you	4	3	*7*
Lower greenhouse gas emissions	3	5	*8*
Improved grid reliability	3	3	*6*
Free equipment	2	0	*2*
Good for local economy through lowering energy bills	0	1	*1*
Total Responses	***12***	***12***	***24***

7.1.4 DemandLink Window Air Conditioner Rebate and Recycling Programs

The moderation provided focus group participants in the second session with marketing materials describing the DemandLink Air Conditioner Rebate and Recycling Programs – materials that they should have received in the mail between April and June 2013. They looked the materials over and shared initial questions or concerns, such as:

- Customer Eligibility - *Do we have to participate in the DemandLink Programmable Controllable Thermostat Program to be eligible for the Rebate and Recycling programs?*
- Equipment Eligibility - *Do EnergyStar units qualify? Is there a size requirement?*
- Technical terms - *What is EER? Is that something that is on the equipment's label?*
- Recycling logistics - *Where can the equipment be recycled?*

For more information, please contact:

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APPENDIX 5

Appendix 5 – Examples of 2014 Marketing Materials

Connecting Tiverton and Little Compton with energy-efficiency solutions.

Good for you!

Thank you for participating in National Grid's DemandLink program. Working together, we are managing rising electricity demand in Tiverton and Little Compton. In fact, just in the last summer alone, you may have taken part in two demand response events that saved money, reduced electricity load, and lowered CO_2 emissions.

Strength in numbers.

You're in good company – over 400 of your friends and neighbors have already participated in DemandLink. Families and businesses all over our community have completed an energy assessment and taken advantage of the enhanced incentives.

- 167 no-cost WiFi programmable thermostats installed in homes with central A/C
- 145 Smart Plug devices installed on window A/C units
- 60 ENERGY STAR® rated window A/C units purchased
- 60 inefficient window A/C units recycled

Get the most out of your WiFi Thermostat and Smart Plugs.

Use the ecobee phone app to make changes to your cooling and heating programs on-the-go.

Visit your personal web portal at **ecobee.com** regularly to see when you're cooling and heating the most.

If you have put away your window A/C units for the season, plug other small appliances into the Smart Plugs to see how much electricity they're using, or to automate when they turn on and off.

Need help?

If you need a User Guide for installed equipment, or are experiencing issues with your new equipment, call RISE Engineering at **401-784-3700 ext 6120**. For all other DemandLink Pilot Program questions, call **1-855-752-6964** or email **RIsrp@nationalgrid.com**.

Stay Tuned!

Summer will be here before you know it and when the demand for electricity is high, we hope you will continue to help your community save by participating in the DemandLink demand response events. More information on DR events is available in our **Frequently Asked Questions** document at **myngrid.com/demandlink**. We will also keep you informed through future **LINK**Up newsletters.

Together we can help create a more robust, more energy-efficient community.
It's good for you. It's good for our community. And, it's good for everyone.

Sincerely,

Lindsay M. Foley
Project Manager, National Grid

Printed on recycled paper

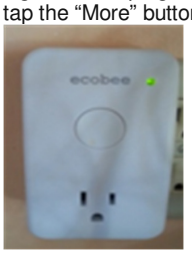
nationalgrid
HERE WITH YOU. HERE FOR YOU.

Demand Link Pilot

Window AC Summer Get-Ready Guide

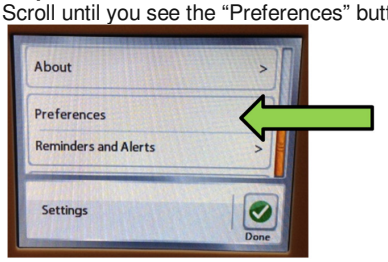
We're thrilled that you have signed up to be part of our exclusive DemandLink pilot and we want to help you maximize the benefits you receive from your participation. This get-ready guide is intended to help you check your window AC unit's connections with the plug load device and thermostat so that it is ready to participate in summer demand response events and earn you your annual bill credit. If you have any questions as you step through this process, please call 401-784-3700 ext 6120 for assistance.

Step 1
First, the thermostat also needs to be set up to accept demand response events so that it can effectively communicate that signal to the plug device. From the thermostat's home screen, tap the "More" button.

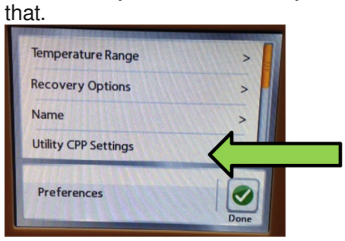


Step 2
Tap the "Settings" button.

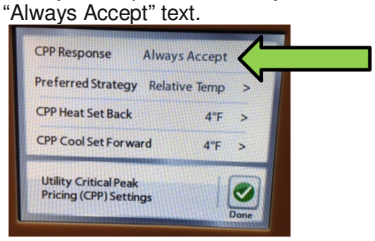
Step 3
Scroll until you see the "Preferences" button and tap that.



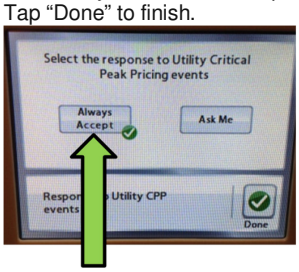
Step 4
Scroll until you see the "Utility CPP Settings" button and tap that.



Step 5
The screen that comes up should look similar to the picture below. Specifically, the "CPP Response" line should say "Always Accept." If it does, you are done! If it doesn't, tap the "Always Accept" text.



Step 6
On the next screen, tap the button that says "Always Accept." This does not remove your ability to opt out of an event. It simply allows the thermostat to accept the event signal and participate automatically. If you decide at any point during an event that you would like to opt out, you are still able to do so.
Tap "Done" to finish.



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Demand Link Pilot

Window AC Summer Get-Ready Guide

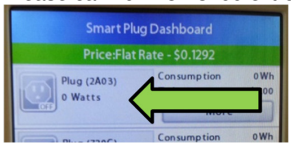
Step 7
Next, the plug load device needs to be connected properly. Insert your plug load device (ecobee or Safeplug) into the wall outlet to be used for the window AC unit.

Step 8
Install your window AC unit per the manufacturer's instructions. Plug the window AC unit into the outlet on your plug load device.

Step 9
The plug load device should automatically reconnect with the thermostat – the thermostat should remember the plug load device from the initial install period. To confirm the connection, go to your wi-fi thermostat and make sure the home screen is visible. Tap the "More" button.

Step 10
Tap the "Plugs" button. (Note: your screen may not have all the same icons as what is shown below) If the "Plugs button doesn't exist, please call 401-784-3700 ext 6120 for assistance.

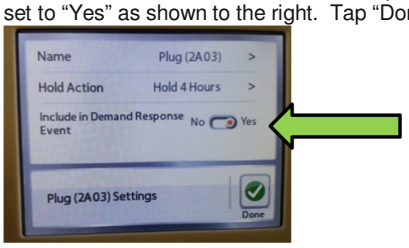
Step 11
You should see a gray box for each plug load device you have installed. You can tap the box to turn the plug on or off, or you can tap the "more" button to adjust the 7-day schedule for the plug. If one or all of the gray boxes are missing, this means that your plug device likely needs to be re-joined to the thermostat. Please call 401-784-3700 ext 6120 for assistance.



Step 12
Next, we will need to set both the plug device and the thermostat to accept demand response events. From the screen above, tap the "more" button.

Step 13
Scroll until you see the "Settings" button and tap that.

Step 14
Ensure that the "Include in Demand Response Event" setting is set to "Yes" as shown to the right. Tap "Done" to finish.



Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

Bound versions of this filing are being hand delivered to the Rhode Island Public Utilities Commission and the Rhode Island Division of Public Utilities and Carriers.

Joanne M. Scanlon

October 31, 2014
Date

Docket No. 4528 - National Grid - 2015 System Reliability Plan
Service list updated 10/30/14

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