ANALYSIS OF JOB CREATION
from 2015 Expenditures for Energy Efficiency in Rhode Island by National Grid

Prepared for National Grid

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Table of Contents

Executive Summary 3

Introduction 5

Efficiency Workforce Overview 6

- Program Support Service Providers 6
- Direct Service Providers 9

Energy Efficiency Program Delivery 10

- Residential Programs 10
- Income Eligible Residential Programs 19
- Commercial and Industrial Programs 21

Employment Impacts of National Grid Programs 29

- 2015 Program Budgets and Full Time Equivalent Employment 29
- Comparing 2015, 2014, and 2013 FTEs 32

Attachment A: Methodologies used for Assessing Employment 37

- Program Support Service Providers 37
- Direct Service Providers 37

Attachment B: Interview Guide 43

Attachment C: Participating Companies 44

Executive Summary

Electric and gas energy efficiency programs and services sponsored, supported, and provided by National Grid in Rhode Island are intended to help eliminate unnecessary energy use, save money for customers, improve the environment, and increase the health, comfort, and safety of homes and businesses.

In 2015, National Grid spent a total of $103,026,953 on electric and gas energy efficiency programs and services in Rhode Island and saved 222,822 MWh and 419,778 MMBtu.

The focus of this study is less *what* was done by National Grid programs than *how* it was done and by whom. Successful delivery of the 2015 energy efficiency programs to National Grid's customers includes active involvement of a broad range of workers across a wide array of businesses, including not-for-profits, contractors, plumbers, rebate processors, state agencies, engineering firms, marketing firms, and others.

In order to quantify the number of direct workers involved, National Grid commissioned Peregrine Energy Group, Inc. ("Peregrine") to conduct a study of the job impacts of National Grid's energy efficiency programs delivered to Rhode Island electricity and natural gas customers in 2015. Peregrine conducted a like study for National Grid in Rhode Island in 2014 and 2013.

Peregrine determined that 695.8 full-time equivalent (FTE) workers were employed in 2015 as a result of National Grid expenditures for energy efficiency programs provided to its Rhode Island electricity and natural gas customers. Most of the jobs created as a result of energy efficiency investments were local because they were tied to installation of equipment and other materials. One FTE equals 1,760 work hours, or the total of one person working 8 hours a day for 220 work days in an average year. Because a "full-time equivalent" employee often represents the labors of more than one person over the course of a year, the number of individual workers employed as result of Rhode Island energy efficiency programs funded by National Grid is far larger that the total of FTEs.

The 2015 FTE total was 5% greater than the 666.1 FTE workers that Peregrine had attributed to National Grid's Rhode Island energy efficiency program investments in 2014 and 25% greater than the 558.9 FTEs in 2013[1]. National Grid's programs and delivery strategies were

[1] 2013 and 2014 FTE counts have been updated this year for consistency purposes due to changes in methodology used in 2015 to calculate FTE jobs associated with installation of weatherization measures in multifamily and commercial buildings. These changes are described in more detail in Attachment A on page 39.

substantively the same in 2015 as they had been in the prior two years. However, 2015 was characterized by a continuing increase in customer participation, demand, and acceptance of energy efficiency services. Further, price drops for and growing adoption of more energy efficient, longer-lasting, and increasingly diverse LED (light emitting diode) lighting products, created installation opportunities and program participation by an increasing number of businesses.

The study identified 1,009 companies and agencies involved in National Grid's Rhode Island programs, 79% of which were located in Rhode Island. The companies identified include those whose employees installed energy efficiency measures, as well as companies who assisted customers to secure equipment rebates, for example through New Construction, High Efficiency HVAC, and Upstream Lighting programs. These findings for 2015 once again confirm that job creation is an additional significant benefit that National Grid's investment in energy efficiency contributes to Rhode Island's economy overall and directly to the business owners and their employees that participate in and deliver these programs and services.

Workers supported by these programs were employed by a broad range of companies and organizations involved in energy program design, management and delivery. In addition to National Grid staff, participating employers included program design consultants, energy program management specialists, marketing and advertising specialists, equipment manufacturers and suppliers, equipment and appliance retailers, architectural firms and developers, engineers and energy analysts, installation companies and independent contractors, quality assurance inspection companies, utility rebate processing houses, waste material recyclers, and program evaluators. In addition, Community Action Program agencies under contract to the state Department of Human Services delivered low-income energy efficiency services for the federal Weatherization Assistance Program (WAP). A full list of companies involved in the 2015 Rhode Island energy efficiency programs is provided at the end of this report.

Introduction

National Grid's Rhode Island energy efficiency programs focus on delivering cost-effective energy savings to residential customers, low-income residential customers, small and large commercial businesses, and industrial customers. In 2015, National Grid spent a total of $103,026,953 on electric and gas energy efficiency programs in Rhode Island created 222,822 MWh in annual electricity savings saved 419,778 MMBtu in annual gas savings. It is important to note that this funding does not include the customer share of installation costs and other leveraged funding such as Regional Greenhouse Gas Initiative (RGGI) and the Low Income Heating Assistance Program (LIHEAP).

For the third year in a row, National Grid commissioned Peregrine Energy Group, Inc. ("Peregrine") to conduct a study of the job impacts of National Grid's energy efficiency programs and services delivered to Rhode Island electricity and natural gas customers in 2015. The objective of the research was to count or estimate the number of direct jobs attributable to National Grid's 2015 energy efficiency programs. While job creation is not a formal goal of National Grid's energy efficiency programs and services, this study illustrates the additional economic benefits that investments in energy efficiency contribute to Rhode Island and to the businesses participating in National Grid's programs. This study meets the requirements of General Law 39-2-1.2, enacted by the Rhode Island General Assembly in 2012.

An additional objective of the 2015 study has been to attempt to identify and explain year-to-year changes in job impacts attributable to National Grid investments, comparing 2015 to previous years' results. Each annual study has endeavored to find and count the full-time equivalent (FTE) employees engaged in all aspects of National Grid's energy efficiency programs. Peregrine has assumed that one FTE, regardless of job type or responsibilities, equals 1760 work hours, or the equivalent of one person working 8 hours a day for 220 work days in an average year.

Unlike the energy savings resulting from these programs that are predicted, analyzed, measured, and recorded, job impacts of energy efficiency improvements are identified, if they are counted at all, as an expense. Types of employees and number of hours worked to deliver programs and services are not captured, except by employers themselves for payroll and business planning purposes. For this reason, calculating job impacts can be more art than science.

As has been the case with prior years' studies, this year's study findings were developed through interviews with managers at energy services companies, equipment vendors, and contractors identified by National Grid for Peregrine or identified as sub-contractors by companies that Peregrine interviewed. These companies voluntarily shared information on how they staff their

contracts and services and even researched payroll records to provide FTE counts. Where possible, the study cites the companies that provided information to Peregrine.

Peregrine also completed a detailed review of National Grid's records of all energy efficiency measures installed in homes, apartment buildings, businesses and industrial facilities throughout Rhode Island in 2015. Peregrine then calculated typical labor hours required for each installed energy savings measure, based on industry standards and discussions with the contractors themselves and other experts, and extrapolated total FTE employment using total counts of measures installed in 2015 that were reported to and by National Grid.

The report is divided into four primary sections:

1. An Efficiency Workforce Overview that describes the types of companies and workers engaged in providing efficiency program-related services and support in Rhode Island
2. The Delivery Approach used for individual programs
3. Summary Counts of FTEs with observations on their significance
4. Attachments describing Peregrine's methodology in more detail, providing Peregrine's interview guide, and listing specific companies that supplied the workforce.

Efficiency Workforce Overview

Peregrine recognizes two main categories of employers/employees that participate in the delivery of National Grid's energy efficiency programs. These categories are:

- "Program Support Service Providers" that are employers and employees involved in program planning / administration, marketing, rebate processing, and evaluation and market research.
- "Direct Service Providers" who are responsible for sales, technical assistance and training, and for supplying and installing approved efficiency measures that National Grid promotes and encourages with incentives and rebates.

Program Support Service Providers

The Program Support Services category includes:

- Companies engaged to provide marketing, outreach, public information, and other related support services, including media placement and design of collateral marketing materials;
- Specialized firms processing and paying out rebates offered for purchase and installation of install high efficiency equipment; and

- Evaluators of the overall performance of and savings associated with the National Grid programs.

National Grid Employees

National Grid staff engaged in energy efficiency program design, regulatory matters, administrative management of contractors, marketing, and evaluation are included in the Program Support Services category. Information provided by National Grid identified 85,204 person-hours of time associated with Rhode Island energy efficiency program activities, equal to 41.6 FTEs. Peregrine is reporting all National Grid FTEs as a separate category for purposes of this study and not allocating them to specific programs or groups of programs.

Support Services Contractors

Peregrine interviewed the majority of lead vendors who supported National Grid in these activities to obtain information on their roles and responsibilities in program delivery and FTE counts. Often, these FTEs represented the aggregation of small numbers of hours by many employees. In some instances, this was because a contractor's role may have been limited in duration and/or required contributions from a multi-disciplinary team. In other instances, it was because a team with multi-disciplinary capabilities was, for reasons of cost effectiveness, providing services to National Grid in Rhode Island and other states or to National Grid and other utility companies.

Depending on the nature of the services the vendor provided and whether the support provided could be associated with specific programs, contractor time was allocated according to the overall allocation of gas and electric spend by program sector (Residential, Income Eligible Residential, Commercial and Industrial), or allocated to a specific program sector.

Program Planners and Administrators

Vermont Energy Investment Corporation (VEIC) and its subcontractors Optimal Energy and Energy Futures Group continued to serve as consultants to Rhode Island's Energy Efficiency and Resource Management Council (EERMC) in 2015. Optimal Energy primarily provided services out of offices in Providence, Rhode Island. The VEIC team of market sector specialists assisted with planning, provided guidance for spending of Regional Greenhouse Gas Initiative ("RGGI") funds for efficiency, and helped with oversight of programs offered by National Grid. The nine staff associated with the three organizations that provided these direct services billed approximately 2.5 FTEs of time. These services were paid for out of system benefits charges and the energy efficiency budget.

Marketers

National Grid's energy efficiency marketing spend for Rhode Island in 2015 was just over $4,000,000, equal to just under 4% of the total Rhode Island energy efficiency expenditure. National Grid had eight firms engaged in a variety of marketing roles designed to increase general efficiency awareness, target specific customer segments and sub-segments for programs and services, and engage and promote trade allies. Much of the budget spend was used for media message placement, printing and direct mailing, and electronic communications.

Kelliher Samets Volk (KSV), a Vermont-based regional marketing firm specializing in the utility sector, was National Grid's primary marketing consultant in 2015, organizing brand marketing campaigns to generate awareness among customers about the breadth of National Grid's energy efficiency programs, campaigns directed at trade allies, and targeted market sector campaigns that focused on specific programs. In addition to coordinating all the efforts of other specialized marketing firms supporting National Grid, KSV's role included media placement, web-based initiatives, organizing social media campaigns, and organizing phone messaging. As KSV's Ashley Nichols described it, the marketing team's goal was "the marriage of awareness and hyper-targeting." They analyzed and reported to National Grid monthly on leads generation for each market segment, monthly marketing activities by different parties, and going forward marketing efforts planned.

KSV identified 40 individuals at the firm that touched the National Grid Rhode Island account in one way or another. Ten of this number accounted for 80% of the total 5,200 hours KSV billed to Rhode Island in 2015, down from 5,900 in 2014 ("We were more efficient in 2015."[2]). Total 2015 hours equaled 3 FTEs. Staff included a three quarter (0.75 FTE) time brand manager based in Little Compton, Rhode Island supporting National Grid.

Additional marketing firms supporting National Grid in Rhode Island in 2015 included Questline Inc., Ideas Agency Inc., Integrated Marketing Services, and InnerWorkings, Inc., Impressions ABA, Sacks Exhibits, and RAM Marketing.

Marketing FTEs are allocated across all programs.

Rebate Processors

National Grid contacted with Blackhawk Engagement Solutions (BES), formerly Parago, in 2015 to process rebates offered for a variety of energy efficient products. BES also supports other clients nationwide. BES scanned, data-entered, and validated rebate applications, processed

[2] Interview with Ashley Nichols, KSV

payments, and cut and mailed checks. All told, BES required 1.72 FTEs, equal to just over 3,000 hours, for rebate application scanning, data entry, customer service, quality assurance, processing services, reward fulfillment, account management, and technology support.

Evaluators

The total Evaluation and Market Research expenditure for Rhode Island for 2015 was $785,213, paid for out of energy efficiency program funds. Contracted firms specializing in utility program evaluation included DNVGL, Opinion Dynamics, Cadmus Energy Services, Illume Advising, and others. Generally, outside evaluator time was attributed to specific programs and the FTEs associated with those hours added to program totals. Peregrine calculated that 3.65 FTEs of labor were associated with evaluation activity in 2015.

Direct Service Providers

The Direct Service category is comprised of contractors hired by National Grid to deliver and promote Rhode Island energy efficiency programs, specialized technical support providers, and suppliers and installers of energy saving equipment.

This category included, but was not limited to:

- **National Grid account managers** providing outreach and direct technical assistance to customers, particularly for large commercial and industrial retrofits, and new construction[3];
- **Energy services companies specializing in field services and installation program management** who were engaged by National Grid to deliver programs, providing schedulers, technical specialists, engineers, installers and trades people, managers and supervisors, warehouse materials handlers, quality assurance inspectors, bookkeepers, and data entry staff;
- **Energy services companies** hired by National Grid to engage, support, manage, and coordinate product suppliers and distributors, retail store offerings, and service networks;
- **Electrical and mechanical engineers** employed by contracted consulting firms and dispatched to identify potential projects, quantify savings, and recommend actions that customers should take;

[3] As noted above in the National Grid description under Program Support Services, all National Grid FTEs are reported together in a separate category for purposes of this study and not allocated to specific programs or groups of programs.

- **Equipment suppliers** providing energy efficient equipment and approved materials directly to National Grid customers or to installation contractors.

- **Independent contractors** installing energy efficient equipment and approved materials for National Grid customers in one or more market sectors, often as subcontractors to National Grid-designated Program leads, but also, increasingly, as self-directed installation vendors.

- **Quality assurance inspectors** that were engaged independently of service delivery contractors to check a sample of completed work to ensure that program standards were being met and that projected savings would likely be realized.

The role and contributions of Direct Service Providers is described in detail in the next section.

Energy Efficiency Program Delivery

National Grid's energy efficiency program delivery strategy in 2015 varied for different market sectors and sub-sectors, based on fuel type, customer rate class, end-use technology, and whether the objective was to affect energy efficiency of current operations or to reduce energy use in new construction. While this strategy remained relatively constant from 2014 to 2015, certain programs changed somewhat in response to emerging technology and market opportunities. This section describes how National Grid delivered specific electric and gas energy efficiency programs and services in 2015 and by whom.

Residential Programs

In 2015, National Grid's residential programs offered a range of services and incentives, from home energy audits with installation of low-cost materials to full weatherization services and heating system replacement to rebates and market channels for purchases of high efficiency appliances and lighting. These programs were designed to reduce energy use by electric and gas customers living in single-family dwellings, 2 to 4 unit buildings, and larger multi-family residences of 5 to 20 units and 20 units or greater.

National Grid's residential programs were delivered primarily by contractors that specialized in supporting utility energy efficiency programs. The contractors' role was to educate a range of market players, buyers and sellers, and bring them in line with National Grid's energy efficiency objectives through education, training, and technical support. Information on each program's delivery mechanism is detailed below.

In 2015, the installation of residential energy efficiency measures again increased compared to previous years, reflecting increased levels of participation by customers. These increases in

spending and installations also resulted in increases in jobs associated with program and service delivery.

EnergyWise Single Family (gas and electric)

In 2015, EnergyWise offered customers living in single-family homes (defined as 1 to 4-unit buildings) a comprehensive energy assessment of their energy use, with building-specific recommendations for actions to take to improve the energy efficiency of their homes.

- Participants in this program received recommendations, technical assistance, and financial assistance to improve building insulation and replace inefficient lighting fixtures, appliances, and thermostats with high efficiency models.
- As part of the energy assessment, field staff installed energy efficient lighting, low-flow showerheads, faucet aerators and smart power strips.
- They also wrote work orders for weatherization services (insulation and air sealing) by insulation contractors and for new high efficiency heating and hot water system installations by plumbing and heating contractors, if warranted.
- After the installation of insulation and heating equipment, quality assurance inspections were provided to confirm that equipment was installed properly.
- The program continued to offer the Rhode Island Heat Loan, which provides 0% interest financing to eligible single-family customers to support the adoption of recommendations made during the assessment. Customers who live in one to four unit single-family residences are eligible for a 0% interest loan of a minimum of $500 up to $25,000 with terms up to seven years.

Delivery:

For 2015, National Grid again contracted with RISE Engineering, based in Cranston, Rhode Island, to manage and deliver the EnergyWise Single Family program. RISE employees, totaling nearly 60 FTEs, involved in program delivery included program managers, office and field staff supervisors, field auditors, field installers and technicians, field inspectors, intake staff and schedulers, warehouse and material management staff, electricians, quality assurance / quality control inspectors, and accounting and contract oversight personnel. In response to increased customer participation in 2015, RISE added field auditors, field technicians, and inspectors to their staff in the course of the year. Field staff completed 10,055 energy audits in 1-4 unit buildings in 2015, up from 8,654 home energy audits in 2014. Demand for services required that

RISE once again sub-contract with Ocean State Energy Audits[4] to perform single-family audits and related installation work, requiring an additional 3 FTEs in the field.

Work orders written by auditors resulted in 2,819[5] customers proceeding with weatherization services (i.e. insulation and air sealing). In 2015, 26 independent insulation contractors installed the insulation and air-sealing materials recommended by RISE. Insulation crews were led by a BPI-certified crew chief. RISE received a program management fee for its services for this program that included a fee per audit, a fee per item installed by RISE staff, and a percentage mark-up (i.e. cost plus) on insulation work completed by contractors.

Independent heating contractors installed high efficiency heating system components, again using work orders generated by field auditors. Almost 900 gas-fired systems and nearly 400 liquid fuel-fired systems (oil or propane) were installed as a result, as well as many new energy-efficient domestic hot water systems.

As part of EnergyWise Single Family, RISE helped customers to secure HEAT loans to finance the installation of more efficient heating systems, hot water systems, and insulation upgrades. There were 1,008 loans in 2015 through private lending institutions, providing financing for 673 weatherization jobs and 552 new high-efficiency heating systems[6].

CMC Energy Services, Inc., doing business as Competitive Resources, Inc. whom they acquired in 2014, provided quality assurance (QA) inspections of a sample of residential customers served[7]. QA addressed all phases of service delivery and included review of field auditors' performance, post-audit counts of installed measures, and post-weatherization site visits to confirm proper installation technique and customer satisfaction with results. Nine field inspectors conducted residential QA visits in Rhode Island and Massachusetts, supported by schedulers and data entry staff. Approximately 2.25 FTEs of this team were engaged in National Grid's residential programs in Rhode Island.

EnergyWise Multifamily (gas and electric)

In 2015, EnergyWise Multifamily continued to provide comprehensive energy services to multifamily customers in buildings with five or more units, including energy assessments, incentives for heating and domestic hot water systems, cooling equipment, lighting, and

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[4] Ocean State Energy Audits also provides audits for income-eligible National Grid customers on a sub-contracted basis for RI Community Action Agencies.

[5] Source: Peregrine interview with RISE Engineering

[6] Many additional heating systems were installed in 2015 for audit recipients who did not elect to finance their purchases through the HEAT program.

[7] Source: CMC Energy Services, DBA Competitive Resources Inc.

appliances. These same services were offered to both market rate and income-eligible multifamily properties. The programmatic approach for serving existing multifamily properties included using a designated primary point-of-contact to manage and coordinate services offered through the full portfolio of National Grid programs, including EnergyWise, Large Commercial Retrofit, Income Eligible Services (i.e. Low Income), and ENERGY STAR® HVAC.

Delivery:

RISE Engineering also managed the EnergyWise Multifamily Program for National Grid. RISE staff included a program manager, a technical services director, field coordinators, field auditors, warehouse materials handlers, electricians, and project intake and coordination staff. This same staff was responsible for the Income Eligible Multifamily Program described below. RISE had a combined 14 FTEs working on the EnergyWise and Income Eligible Multifamily programs[8].

RISE engagements in this sector resulted in 4,312 market rate units and 4,876 income eligible units[9] participating in the program in 2015, up from 3,400 market rate and 4,000 income eligible multifamily units[10] in 2014. Standard income units were in 57 apartment buildings and 67 condominium complexes.

RISE staff served as project managers for retrofit projects, meeting with building facility managers, making presentations to condominium boards and owners, and writing work orders and scopes of work (e.g. for air sealing, attic insulation, lighting fixtures, and even replacement refrigerators from retailers for low-income residents).

Independent contractors installed weatherization materials (insulation and air sealing) and heating equipment components. RISE pre-qualified the insulation contractors that bid on this work. This program was coordinated with the Commercial Multi-family program for gas heating systems. Plumbers and electricians were engaged as sub-contractors as needed.

As was the case with the EnergyWise Single Family program, National Grid engaged CMC Energy Services to perform independent quality assurance checks on multifamily services.

Residential New Construction (gas and electric)

This program promoted the construction of high-performing energy efficient single family, multifamily, and low-income homes in both 1 to 4 unit buildings and multifamily buildings up to

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[8] Source: RISE Engineering
[9] Source: RISE Engineering
[10] Source: RISE Engineering

five stories. To that end, it educated builders, developers, housing agencies, tradesmen, designers, and code officials regarding the construction requirements, performance benefits, and costs for such buildings. Changes driven by the Residential New Construction program improve lifecycle energy performance. This is primarily attributable to better materials selection and improved construction methods. Builders say that the incremental cost of these enhancements are more than offset by faster home sales and fewer call backs to address owner concerns.

In 2013, the program had adopted a performance-based tier structure with corresponding financial incentives and began to capture savings from the Renovation/Rehabilitation and Deep Energy Retrofit offerings. This continued in 2014 and 2015, with additional incentives being offered, but with increases in performance verification as well. Incentives paid were based on the percentage of improvement over an established baseline.

Delivery:

For program year 2015, National Grid again contracted with Conservation Services Group (CSG), based in Westborough, Massachusetts, to deliver this program. 2015 was the 19th year CSG had managed the Residential New Construction program. In mid-year 2015, Conservation Services Group was acquired by CLEAResult, a rapidly growing national energy services provider.

Staff located at the Westborough office focused on program management, data management, and administrative responsibilities, while three field and training personnel were based in East Greenwich (Warwick), Rhode Island. Field personnel provided trainings and reviewed plans submitted by builders and developers. A continued emphasis has been to try to reach out to all Rhode Island builders to continue to expand the impacts of the program statewide.

CLEAResult also modeled proposed buildings and completed inspections that verified and certified that construction practices for participating buildings receiving performance ratings. In 2015, 442 units of housing and homes received HERS ratings[11]. 239 of the housing units rated were multifamily units. CLEAResult brought 54 new builders and developers into the Residential New Construction program in 2015, continuing National Grid's success with market transformation.

With approval from National Grid, Peregrine did not include labor hours for this program beyond the program implementation services provided by CLEAResult. While incentives offered by National Grid influence the installation of more efficient materials and products in a new home, such installations do not substantially increase the labor hours. The labor needed to

[11] Source: CLEAResult

construct a high-efficiency home is more or less the same as for buildings that meet current code requirements. In addition, these new homes would have been built anyway without the intervention and support of the program, even though they would not achieve the same standards for efficiency in their design and function. Therefore, no construction labor component is counted for purposes of this study.

Residential Codes and Standards Initiative

The Codes and Standards Initiative's goal has been to provide information and technical support to the construction / design community and to code officials in municipalities to increase code compliance and promote advanced and stretch codes like the Rhode Island Green Construction Code.

Delivery:

National Grid continued to contract with Conservation Services Group (CSG) in 2015, now CLEAResult, to lead this initiative in parallel with the Residential New Construction program. CLEAResult trainers conducted 14 residential classroom trainings and 15 on-site residential trainings[12]. In addition, trainers delivered 12 commercial classroom trainings and three on-site commercial trainings in 2015. They also had a circuit rider to provide on-site technical assistance as needed.

Residential Home Energy Report Program (gas and electric)

National Grid began offering Home Energy Reports (HER) statewide to all residential customers in April 2013 and continued the program through 2014 and 2015. The Rhode Island HER program, the first statewide behavior program in the country, uses historical energy usage benchmarking and social comparisons to encourage energy efficient behavior in the homes of residential customers. The program provides customers with access to personalized energy usage information and the ability to directly link with National Grid's other residential energy efficiency programs and services.

Delivery:

Opower, with offices in Arlington, Virginia, delivered the Rhode Island HER program, using proprietary behavioral analysis and energy audit software. Opower is staffed with behavioral scientists, marketing experts, engineers, and software product developers, with support staff, operating in cross-functional teams to develop and deliver these audit reports in Rhode Island and elsewhere across the U.S.

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[12] Source: CLEAResult

At the end of 2015, Opower had developed and distributed data-driven, software-generated reports to 268,263 residential electric and 130,455 residential gas National Grid customers enrolled in the Home Energy Report program in Rhode Island. The objective of these reports was to generate actual energy savings by providing "tips" for reducing energy use and to increase demand for and participation in other residential programs offered by National Grid. Comparing participants to a control group, Opower estimated that their reports result in a 10% – 20% lift in program participation[13]. Opower also created an online engagement platform, documenting savings and working with existing Company systems.

Residential Community Based Initiatives (gas and electric)

Rhode Island Energy Challenge is a collection of locally-based initiatives that leverage trusted community partnerships and develop targeted marketing strategies in order to promote National Grid's residential (and commercial) energy efficiency programs in targeted communities. Community-based initiatives resemble political campaigns that are trying to get out the vote. They are run through communities as municipality-wide initiatives or as market-segment focused efforts, with the goal of increasing awareness of and participation in National Grid offerings and driving residential customers to make behavioral changes that reduce energy use.

Delivery:

Connecticut-based Smart Power coordinated the Rhode Island Energy Challenge, which encouraged communities to establish energy efficiency goals and take steps to achieve them. The program had a Rhode Island-based manager, supported by operations staff in Connecticut. At the community level, the program enlisted volunteers to promote participation, though these volunteers are not counted for purposes of this study. Major initiatives in 2015 targeted the cities of Providence, North Providence, and Central Falls. A new 2015 initiative in partnership with local community action agencies targeted renters in income eligible housing complexes. This behavioral program is continuing in 2016. A church-based initiative promoting "Energy Sundays" launched with Rhode Island Interfaith Power and Light in 2014 continued in 2015. A campaign directed at college students at Brown University, Johnson and Wales, University of Rhode Island, and Providence College was also kicked off in 2015.

ENERGY STAR® Lighting (electric)

ENERGY STAR® Lighting is a point-of-purchase initiative implemented jointly with other regional utilities. It provided discounts to customers for the purchase of ENERGY STAR® rated lamps and

[13] Source: Interview with OPower

fixtures and solid-state lighting through instant rebates and special promotions at retail stores. A mail-order catalog and online store were also available to customers for lighting purchasing. As noted earlier in this report, new LED lighting has become a significant piece of this program, increasingly displacing compact fluorescent lights that dominated screw-in incandescent lighting replacements in recent years.

Delivery:

Lockheed Martin Services, with an office in Marlborough, Massachusetts, again supported the residential consumer lighting initiative in 2015, providing direct outreach and education to both product retailers and manufacturers. Staffing in 2015 included a full-time Rhode Island-based field representative and a nearly full-time (90%) Rhode Island-based account representative to work with retailers statewide, providing product information, training them to upsell to more efficient products, offering staff events, conducting in-store surveys and point-of-sale promotions. Lockheed Martin again employed a School Fundraising Coordinator in 2015, while increasing the coordinator's time Rhode Island time from 18% to 50%, who helped organize school-based lighting product and power strip purchasing and distribution. Lockheed Martin reported that program sales volumes in 2015 were as good or better than in 2014

Massachusetts-based Energy Federation, Inc. provided a product catalogue and online store for National Grid and other regional utilities to promote and supply qualified products and to provide technical assistance to customers. This fulfillment function employed a manager, required a call center that took orders, and included warehouse personnel serving orders from Rhode Island customers, customers from elsewhere in New England, and nation-wide.

As outlined in the program description, ENERGY STAR® Lighting employed a number of avenues to encourage the purchase of energy efficient lighting to residential customers. Part of this region-wide initiative focused on retail outlets. However, retail outlet employees were not counted for this study since the sale of these products had no discernible incremental effect on store employment (i.e. it primarily resulted in different lighting choices by consumers).

ENERGY STAR® Appliances (electric)

In 2015, ENERGY STAR® Appliances was again run in collaboration with other regional utilities to promote the purchase of high efficiency household appliances, including kitchen appliances, and electronics. These appliances carry an ENERGY STAR® label. The program also offered refrigerator recycling, which helped address a significant barrier to purchasing a more efficient refrigerator, while removing non-efficient units from the market, recycling their components, and capturing and properly disposing of refrigerants.

Delivery:

As was the case with ENERGY STAR® Lighting, ENERGY STAR® Appliances was primarily a retail-store based initiative. And as was the case with ENERGY STAR® Lighting, retail outlet employees were not counted for this study since the sale of these products had no discernible incremental effect on store employment (i.e. it primarily resulted in different appliance choices by consumers). Again, as with ENERGY STAR® Lighting, Lockheed Martin Services engaged major retail outlets, providing the same support as for ENERGY STAR® Lighting.

National Grid and the other regional utilities contracted with JACO Environmental to recycle refrigerators as part of the holistic strategy to encourage the purchase of energy efficient refrigerators. JACO employed a regional facility in Franklin, Massachusetts for refrigerator collection, dismemberment, and recycling. JACO employed a local program manager to service the regional program, staffed a large warehouse in Franklin, and had staff dedicated to New England utility customers at its call center in Washington State.

ENERGY STAR® HVAC (gas and electric)

The High-Efficiency HVAC programs (*Gas Heat* [heating] and *CoolSmart* [cooling]) promoted the installation of high efficiency gas heating and electric cooling systems via tiered rebate levels for more efficient technologies including ductless mini-splits, heat pumps, heat pump water heaters, boilers, furnaces, Wi-Fi thermostats, boiler reset controls, and furnaces equipped with high efficiency fans. The program provided in-depth contractor training for design, installation, and testing of high efficiency systems. Furthermore, the program provided quality installation verification training, ensuring that all equipment is properly sized, installed, sealed, and performing.

Delivery:

National Grid hired Westborough, Massachusetts-based Conservation Services Group (CSG), now CLEAResult, to deliver this Program, which included three related initiatives: *Cool Smart*, the *Rhode Island Gas Heat Program*, and *Commercial Upstream Cooling*. Both *Cool Smart* and *Rhode Island Gas Heat Program* focused on contractors, with Conservation Services Group providing training, technical support, and marketing assistance to help encourage customers to upgrade to higher efficiency systems. *Cool Smart* also provided 732 quality control inspections in 2015, called Quality Installation Verifications or QIVs. 1,500 Cool Smart rebates[14] were approved in 2015 (vs. 1,495 in 2014). For *Commercial Upstream Cooling*, a circuit rider was used to provide field support.

[14] Source: Peregrine interview with CLEAResult

Lockheed Martin Services has also been involved in this program, promoting advanced thermostats and energy efficient water heaters to big box home improvement retailers.

In evaluating FTEs associated with the program, Peregrine counted the employees of vendors under direct contract to National Grid, but did not include labor associated with installation of this equipment, since it did not increase incrementally as a result of the Program.

Income Eligible Residential Programs

Income Eligible (low-income) programs were offered to National Grid customers in single family (1-4 unit) dwellings and multifamily (5 or more unit) buildings or developments that were eligible for the Low Income Heating Assistance Program (LIHEAP). Because this target audience was already being provided with some energy related assistance already through federal and state programs, National Grid's strategy was to piggyback on and complement and support these existing programs.

Specific 2015 Income Eligible Residential Programs, included:

Income Eligible Single Family (gas and electric)

The Income Eligible Single Family program provided low-income customers with home energy assessments, installation of energy efficient lighting, appliances, heating systems, domestic hot water equipment, and weatherization measures.

Delivery:

The Income Eligible Single Family program was provided through local Community Action Program (CAP) agencies that were under contract to the Rhode Island Department of Human Services (DHS) to deliver federally funded Weatherization Assistance Program (WAP) and the Low Income Heating Assistance Program (LIHEAP). All seven Rhode Island CAP agencies participated in and delivered Single Family Income Eligible Services. They provided three types of building audits: audits focused on lighting and appliances only that installed lighting products, audits providing detailed recommendations and work orders for insulation contractors, heating system installers, and fans; and comprehensive audits that did both. BPI-certified auditors completed building assessments and work orders. Special AMP (appliance management program) auditors installed lights and refrigerator measures.

Independent weatherization contractors installed the insulation and completed air sealing for the CAP agencies. These contractors were selected off a state-approved list and offered fixed pricing statewide for installed measures. Each agency had three to five insulation contractors it typically worked with. The CAP auditing staff inspected completed insulation work post-installation to ensure it was properly installed. Heating system upgrades were put out to bid to

heating contractors, and heating contractors also were used for post-installation inspections.

In July 2013, CLEAResult, with offices in Providence, Rhode Island, became the manager of the Income Eligible Residential program and has continued in that role in 2014 and 2015. CLEAResult has been responsible for training, quality control, and oversight of National Grid-funded services and installations delivered through CAP agencies. CLEAResult also served as the conduit for National Grid payments to the CAP agencies, and they worked closely with the Rhode Island DHS staff to coordinate delivery of National Grid-funded services and traditional Weatherization Assistance. CLEAResult staffing included a program manager, an installation quality assurance / quality control inspector, and administrative support.

ACTION, Inc., based in Massachusetts, was hired to manage the refrigerator replacement service provided to income eligible residential customers. This included product procurement, ordering, delivery, removal and disposing of old appliances, and conducting quality assurance surveys.

Income Eligible Multifamily (gas and electric)

In 2013, the Company consolidated energy efficiency offerings for income eligible multifamily properties with five or more units into the Income Eligible Multifamily program, which continued in 2014 and 2015. This suite of programs addressed both gas and electric opportunities, which were previously offered as part of EnergyWise or Large Commercial Retrofit. Comprehensive energy services available to these customers included energy assessments, incentives for heating and domestic hot water systems, cooling equipment, lighting and appliances. Services are coordinated with delivery of the EnergyWise Multifamily program, but tracked separately. Additionally, the Residential New Construction program worked with Rhode Island Housing, local housing authorities, and developers of income-eligible housing to encourage construction of energy efficient properties.

Delivery:

In conjunction with its delivery of EnergyWise Multifamily services, RISE Engineering, based in Cranston, Rhode Island, had primary responsibility for delivery and coordination of Income Eligible Multifamily services. RISE staff serve as project managers for retrofit projects, meeting with building facility managers, making presentations to condominium boards and owners, and writing work orders and scopes of work (e.g. for air sealing, attic insulation, lighting fixtures, and even replacement refrigerators from retailers for low-income residents. Independent contractors installed weatherization materials (insulation and air sealing) and heating equipment components.

National Grid also began a Multifamily Benchmarking initiative in 2015, supported by a grant from Chicago-based Elevate, to provide affordable housing developers and operators of public housing authorities with building-specific information about the relative energy performance of

their properties. New Ecology, specialists in affordable multifamily housing energy analysis, provided this service out of its Providence office. Collaborators included National Grid, RISE, RI Housing, the RI Office of Energy Resources, and the Energy Efficiency and Resource Management Council. New Ecology screened 428 large and small multifamily buildings and met with owners to review and interpret findings. Poor performers were referred to RISE for targeted follow-on services.

Commercial and Industrial Programs

In 2015, National Grid's Commercial and Industrial (C&I) programs employed a range of delivery mechanisms, described below, to achieve National Grid energy efficiency goals in new building construction and building retrofits for large and small businesses. C&I budgets also supported energy efficiency in municipal facilities.

C&I programs differentiate between a limited set of "prescribed measures" offered primarily to smaller businesses and "custom" or "comprehensive" measures that are approved for larger businesses. While the Small Business program, described below, has a preferred contractor installing prescribed energy conservation measures with very attractive pricing, in the same way EnergyWise does in the residential market, in general, the delivery of C&I offerings increasingly has become more "market-driven" than residential programs.

C&I programs have been structured as a whole or in part to encourage independent product and service providers to market and deliver services to National Grid customers, driving sales using incentives available to them from National Grid for purchase and installation of qualifying products. This strategy allowed customers to work within existing contractor relationships to receive program incentives, and likewise allows contractors to work within existing customer relationships to identify opportunities for placing measures that National Grid wants to promote. It also meant that multiple venders can compete for a customer's business, while assuring the customer that they could bring the same National Grid incentives.

From both a jobs and a savings perspective, this has resulted in the numbers of energy services businesses directly participating in National Grid programs increasing significantly and has created new and additional opportunities for diverse vendors to promote emerging energy efficient technology to new and existing clients.

Small Business Direct Install (electric)

In 2015, the Small Business Direct Install program continued to provide direct installation of prescriptive and custom energy efficient lighting, non-lighting retrofit measures, and minor gas efficiency measures. Electric customers with average monthly demand of less than 200 kW were eligible to participate. The customer cost share for installations was 30% of the total cost of a

retrofit. Further, with the On Bill Repayment (OBR) option, a customer could choose to be billed monthly for its share over a two-year period interest-free for the amortized OBR amount.

The Direct Install program also included the SBS Coolers sub-program, which provided refrigeration controls and other refrigeration improvements to eligible customers. These measures included fan controls, cooler and freezer door heaters, smart defrost technology, EC motors, night shut off controls for novelty coolers, and LED lighting for refrigerator applications.

Delivery:

The Direct Install program's lighting and non-refrigeration measures were delivered by RISE Engineering of Cranston, Rhode Island and sourced from one product vendor (Rexel, formerly Monro Distributing). Both RISE and Rexel were selected through a competitive bidding process.

Nearly 1,340 customers participated in this program in 2015, up from the 1,050 customers participating in 2014, an increase of nearly 30 percent[15]. RISE provided turnkey installation services to this market, with annual goals, and accounted for just fewer than 80% of the customers serviced. The remaining 20% of customers served was through the Customer Directed Option or "CDO", initiated in 2014 and described below.

RISE staff engaged in the Small Business program included employees responsible for marketing and lead generation and staffing an intake center that was responsible for pre-qualifying potential customers. RISE energy specialists performed field audits of customers' facilities, and data entry staff used completed audits to generate proposals for customers. Audits also resulted in referrals to the Commercial and Industrial Gas Program. When a customer accepted a proposal, RISE project managers ensured that sufficient product was available, issued that product to installer/electricians, and ultimately closed out the work when the installation was completed. RISE maintained a supervised warehouse for material distribution and materials handlers. Electricians were both RISE employees and employees of sub-contractor Superior Electric. RISE also employed back office and accounting staff to service this program. In general, RISE employees supporting this program were salaried or hourly, while subcontractors were paid for installation work on a piece basis. Total employment from RISE and its sub-contractor Superior Electric associated with the Small Business program totaled 43.5 FTEs[16]. RISE also used two HVAC firms as controls subcontractors for installation of custom measures.

[15] Source: National Grid program statistics

[16] Source: RISE Engineering

As noted above, customers could also choose to use their own preferred electrician through the "Customer Directed Option" of the Small Business program. In 2015, over 250 customers used this option, working with nearly 25 separate firms[17].

National Resource Management (NRM), based in Canton, Massachusetts, once again delivered the SBS Coolers sub-program in 2015, which focused on controls and equipment upgrades for commercial refrigeration. NRM staff included administration and support personnel (some with technical specialties), sales representatives, and equipment installers, totaling 6.4 FTEs. Sales staff worked out of their homes in Rhode Island.

As was the case with residential programs, National Grid used CMC Energy Services, Inc. to provide quality assurance inspections of Small Business projects. Eight field inspectors conducted QA visits in Rhode Island and Massachusetts for the Small Business program as well as for the Large Commercial Retrofit and Upstream Lighting programs (described below), supported by schedulers and data entry staff. Approximately 2.25 FTEs of this team were engaged in National Grid's commercial and industrial programs in Rhode Island.

Large Commercial Retrofit (electric)

Large Commercial Retrofit is a comprehensive retrofit program designed to promote the installation of prescriptive and custom configurations of energy efficient electric equipment such as lighting, motors, and heating, ventilation and air conditioning (HVAC) systems, controls, and even combined heat and power systems in existing buildings. All commercial, industrial, and institutional customers are eligible to participate. Participating customers tended to be larger (i.e. have a monthly demand of 200 KW or more) or were pursuing "custom" electricity saving measures not available through the prescriptive Direct Install program. As was the case for the Small Business program, National Grid paid incentives to assist with defraying part of the material and labor costs associated with installing energy efficient equipment; but incentives available through this program were generally less generous than through the Direct Install program, with customers paying a larger percentage of the installed cost of measures.

National Grid also offered technical assistance to customers to help them identify cost-effective conservation opportunities.

Delivery:

<u>Installations</u>

The Large Commercial Retrofit program in 2015 continued to be a primarily market-based

[17] Source: National Grid program statistics

initiative with no formal program administrator or designated suppliers. National Grid established performance standards for energy measures and allowed customers to select suppliers and installation vendors. Again, as described above, National Grid paid incentives that helped defray a portion of the material and labor costs associated with installed energy efficient equipment.

National Grid statistics for the 2015 Large Commercial Retrofit program identified projects for around 510 individual customers. The 14 National Grid-approved Project Expeditors ("PEX") pursued, secured, and installed 217 of these projects, of which 132 (61%) were lighting retrofits, 15 were HVAC projects, 12 were variable speed drives, and the additional 58 were "custom" or comprehensive projects, often involving multiple energy efficient technologies, that received customized incentives from National Grid. Of the 217 total projects installed by the PEX vendors, three firms installed 173 (80%) of them: Energy Source, Inc. (94), RISE Engineering (44) and Energy Conservation, Inc. (35). Continuing a growing trend observed in 2013 and 2014, these expeditors engaged dedicated sales / project management staff and aggressively pursued potential customers, in many cases then subbing out the field work to licensed electrical contractors and technology specialists who received unit-based fees for completing installations.

There were over one hundred other Installation Contractors active in the Large Commercial Retrofit program in 2015, who also used the program as a means to induce customers to upgrade existing systems to improve energy efficiency or purchase and install qualifying energy efficient equipment. These vendors included general energy contractors and energy services companies, as well as purveyors of energy saving technologies, such as energy management systems, advanced lighting systems, process equipment, HVAC components, etc. Between them, they completed an additional 292 projects. Of these projects, 151 were for lighting (51%), 95 were "custom" projects, 34 were for variable speed drives, and 12 were HVAC projects.

Technical support

To further support large commercial customers, National Grid contracted with consulting engineers who could be assigned at the request of an account manager to assist a customer with identifying potential custom projects and to evaluate or model the energy savings that would result, including completing required program applications. Some of these consultants brought expertise in such specialties as data center energy efficiency improvement or laboratories and clean room technology. In other situations, the customer could propose his own engineer with a scope of work that National Grid might elect to support. Additional support was available from contracted consulting engineers to witness project commissioning, to confirm that the installed measures were operating and performing as anticipated, and to ensure that predicted savings would be achieved.

In a similar vein, National Grid contracted with CLEAResult, the parent company of Portland, Oregon-based PECI, through its Massachusetts office, to offer the Energy Smart Grocer sub-

program, which helped large and small supermarket chains identify and implement energy efficiency improvements. Working in 60 kW or larger supermarkets, CLEAResult focused on refrigeration improvement and some lighting. CLEAResult employed auditors and other technical staff to identify and develop refrigeration improvement projects, help engage contractors to complete upgrades, provide technical support as needed, and perform quality assurance inspections of installations. In total, 114 customers were served in 2015, up from 73 projects in 2014 and 69 projects completed in 2013[18]. These customers were part of 17 different parent accounts, representing a significant increase in the numbers of local and regional chains participating in the program, in large part through expanded outreach through the RI Food Dealers Association. Over 25 CLEAResult staff logged 2.3 FTEs providing these support services, with installations completed by independent contractors selected by customers.

Supply channel initiatives

National Grid's Commercial and Industrial Upstream Lighting program encourages customers to choose higher efficiency lighting products at the point of purchase. The assumption was that commercial customers were going to larger lighting distributors to purchase replacement lighting as it naturally failed and for large-scale change-outs. A program requirement was that this product could not be purchased and stored, but must be installed right away to generate immediate savings. The program's concept was to bring the incremental cost of the more efficient products available at distributors in line with now-conventional products so customers opt for high efficiency and lost opportunities for efficiency improvement could be avoided.

National Grid hired ECOVA to manage, support, and promote Upstream Lighting. ECOVA engaged manufacturers and calling on distributors. They offered incentives from National Grid to reduce list prices of certain energy efficient products to electrical contractors and businesses, with the goal of transitioning and transforming stocking behavior. ECOVA processed incentives and managed a quality assurance process to ensure that recorded sales were legitimate. National Grid contracted with Competitive Resources to conduct inspections to confirm that the purchased product had been installed[19].

In 2014, 429,034 units of lighting had been sold through upstream lighting. Of these, 261,820 were high efficiency linear fluorescent lamps (LFLs) replacing standard efficiency tubes. There were also 167,214 units of LED product sold. In 2015, the total volume of product sold fell to 327,420, in part due to less promotion of the program by National Grid, a drop of 24%. At the

[18] Source: Peregrine interview with CLEAResult

[19] Source: CMC Energy Services, DBA Competitive Resources Inc.

same time, the number of LFLs sold fell from 261,820 to 75,520, a drop of 71%, while sales of LEDs increased from 167,214 in 2014 to 251,900 in 2015, growing 50%.[20]

In 2015, National Grid required that all products purchased through Upstream Lighting at a subsidized price be installed immediately (i.e., not be stored and used to replace failed lamps in the future). Given the large volume of product sold under the program, Peregrine was curious how much labor the installation of Upstream Lighting products represented.

Given our lack of information about the identity of the many individuals doing these installations, how long each of them would take to do this work, and what the basis was for their compensation (e.g. salaried, hourly, fee-based, or unit-based), Peregrine applied the same product-specific per-unit-installed times provided to us by vendors that Peregrine used to calculate FTEs for lighting installations by electricians under the Direct Install and Large Commercial Retrofit programs. We reasoned that because those installation times reflected the high productivity of experienced electricians incentivized to work quickly, the resulting FTEs calculated would be a conservative number that did not overstate labor hours.

Using this methodology, we calculated that the total 327,420 units of product sold through Upstream Lighting in 2015 would require, at a minimum, a total of 31.8 FTEs to install. However, we recognized that not all of this labor should be counted as part of this study since many of the purchasers were National Grid electric customers whose employees were most likely installing products as part of their normal job duties.

Digging deeper into the Upstream Lighting data provided by National Grid, Peregrine found that a significant portion of the product purchasers were electrical contractors who were buying and presumably installing products at customer facilities. These 350 electrical contractors accounted for 13 FTEs of the total 31.8 FTE installation labor calculated, or 41% of the installations of product sold. Electrical contractors were, per the program design, using the discounted pricing of these products available from the lighting distributers they frequent to upsell customers to replace standard efficiency lighting with high efficiency product, further driving the market transition. Some contractors, most notably Energy Source Inc. who purchased 48,000 units of lighting or 15% of the Upstream Lighting product purchased in 2015, were particularly active participants in the program.

Large Commercial New Construction (electric)

The Large Commercial New Construction program encouraged energy efficient design and construction practices in new and renovated commercial, industrial, and institutional buildings.

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[20] Source: Ecova

The program also promoted the installation of high efficiency equipment in existing facilities during building remodeling and at the time of equipment failure and replacement. The program offered incentives to eliminate or significantly reduce the incremental cost of high efficiency equipment over standard efficiency equipment and provided technical support to assist customers to identify opportunities for incremental efficiency improvement in eligible buildings.

Delivery:

The New Construction program is administered internally by National Grid. As noted above, it offers both technical and design assistance to customers to identify opportunities for incremental efficiency improvement in new building designs and to help customers and their architects/engineers to refine their designs to capture these opportunities.

Outside consultants are brought in to assist customers to identify and incorporate energy efficiency solutions into new construction designs and to complete detailed studies that model and quantify energy savings. Commissioning or quality assurance is also offered to ensure that the equipment and systems operate as intended. For example, one such technical consultant, SMMA, in collaboration with National Grid's strategy team, helped provided outreach to non-profits, schools, or municipal buildings between 20,000 and 50,000 square feet in area and critiqued proposed construction projects to optimize long-term energy performance.

For purposes of this study, as is the case with Residential New Construction, construction jobs associated with commercial new construction were not counted because National Grid's involvement primarily impacts what equipment is installed and construction labor does not measurably increase in these projects.

Commercial and Industrial Gas Programs

Commercial and Industrial Gas programs supported installation of energy efficient gas heating and water heating systems, certain thermal envelope measures, and custom gas systems in existing buildings and in new construction. The program guidelines for measure eligibility were the same as for the Large Commercial Retrofit program and the New Construction program. Retrofit measures must demonstrate that they will result in added efficiency beyond existing still functional equipment. For new construction or with failed equipment, the "lost opportunity" rules apply. New equipment, to be eligible for incremental incentives, must exceed the efficiency of what codes require. All commercial, industrial, and institutional customers were eligible to participate.

The Commercial and Industrial Gas programs also offered technical assistance to customers to help them identify cost-effective conservation opportunities and paid incentives to assist in defraying part of the material and labor costs associated with the energy efficient equipment.

Delivery:

RISE Engineering served as National Grid's Program Administrator for gas programs. RISE employees working on this project included a program manager and project coordinator, mechanical and electrical engineers, field staff performing audits and minor installations, and administrative personnel and support staff. A total of 8.3 FTEs from RISE serviced the Rhode Island program. RISE Engineering's Program Manager has described RISE's role in the program as "the gears that keep moving applications forward."

RISE received leads from a variety of sources, including project expeditors, mechanical contractors, and suppliers of equipment such as steam traps. RISE would then generate a Program application and as necessary or appropriate, review the customer proposal or undertake a scoping study. If the project proposed was acceptable (i.e. met National Grid's standards), RISE issued an offer letter to the customer authorizing the project to proceed. Customers had responsibility for arranging for and completing the installation. RISE performed a post-installation inspection and closed out the application so that the rebate could be issued.

Employment Impacts of National Grid Programs

2015 Program Budgets and Full Time Equivalent Employment

Peregrine found that an estimated 695.8 full-time equivalent jobs or "FTEs"[21] resulted from National Grid Rhode Island energy efficiency programs in 2015. The table on the following page summarizes the job impacts of the 2015 electric and gas energy efficiency programs, by program and by program sector. In the table, Program Support Service Provider FTEs have been allocated and integrated into individual program FTE counts and program sector FTE counts based on spend. These are added to the Direct Service Provider count for each program. Smaller programs with limited FTE counts, including pilots and community initiatives were combined into the category titled "other". Community Action weatherization assistance program staff and National Grid staff are counted in the 695.8 FTE total, but presented separately in the table.

Peregrine was not able to develop actual head counts of individual workers participating in delivery of and support for the 2015 National Grid programs in Rhode Island. However, Peregrine can say with confidence, based on interviews with companies directly involved in the implementation of National Grid's energy efficiency programs and though our analysis of field delivery, that the number of individual workers employed in and compensated for work on Rhode Island energy efficiency programs far exceeds the total FTEs.

As described in the Energy Efficiency Program Delivery section, many companies told Peregrine that they employed multiple individuals with specialized skills or in discrete roles that were important to delivering a comprehensive, high quality product or service; but only a portion of each employee's total annual hours were attributable to Rhode Island energy efficiency activity.

Some examples:

- National Grid calculated that there were 41.6 FTE National Grid employees who worked on Rhode Island energy efficiency programs in 2015, with over 85,000 hours billed against Rhode Island accounts. That FTE count represented the aggregated contributions of many more individual National Grid staff supporting energy efficiency in Rhode Island. These were a mix of Rhode Island-dedicated employees and employees with system-wide or similar other-state responsibilities who contribute fractionally to the Rhode Island FTE total.

[21] Peregrine and National Grid have defined a FTE for purposes of this study as 1,760 annual hours of employment (or 220 total days of employment per FTE).

2015 Full Time Equivalents by Program

PROGRAMS	2015 SPEND	TOTAL FTES
ELECTRIC PROGRAMS		
COMMERCIAL & INDUSTRIAL (C&I) TOTAL		**210**
C&I Financing	$4,000,000	**0**
Large Commercial New Construction	$8,538,704	1
Large Commercial Retrofit	$20,809,356	146.6
Small Business Direct Install	$10,734,963	60.6
Other	$146,850	1.8
LOW-INCOME RESIDENTIAL TOTAL		**37**
Single family Income Eligible Services	$7,067,927	28.6
Income Eligible Multifamily	$2,320,262	8.4
RESIDENTIAL TOTAL		**125.4**
Energy Wise	$9,782,191	97.2
EnergyStar Appliances	$1,931,580	10.1
EnergyWise Multifamily	$3,345,002	4.3
Home Energy Reports - Residential	$2,339,660	3.4
Residential New Construction	$1,003,693	3.1
Energy Star HVAC	$1,342,303	0.2
Energy Star Lighting	$6,905,723	1.6
Other	$1,047,130	5.5
NATURAL GAS PROGRAMS		
COMMERCIAL & INDUSTRIAL (C&I) TOTAL		**32**
Large Commercial New Construction	$1,843,675	0.9
Small Business Direct Install - Gas	$203,426	0.7
Large Commercial Retrofit	$3,226,992	23.9
Commercial & Industrial Multifamily	$705,437	5.8
Other	$50,774	0.7
LOW-INCOME RESIDENTIAL TOTAL		**43.8**
Single family Income Eligible Services	$2,682,705	23.4
Income Eligible Multifamily	$1,756,655	20.4
RESIDENTIAL TOTAL		**172.1**
Energy Star HVAC	$1,524,766	0.2
Energy Wise	$4,877,620	142.9
EnergyWise Multifamily	$1,694,198	26.2
Home Energy Reports - Residential	$455,512	.6
Residential New Construction	$450,772	1.4
Other	$71,851	0.8
COMMUNITY ACTION WEATHERIZATION STAFF		**34**
NATIONAL GRID STAFF		**41.6**
GRAND TOTAL		**695.8**

- Engineering firms that provided technical support, both general and specialized, to commercial and industrial programs, that provide energy efficiency services to multiple electric and gas utility companies and/or to multiple National Grid-serviced states, and dispatch staff when requested to assist individual Rhode Island customers. The intermittency of these Rhode Island requests and the necessary economics of maximizing staff utilization create a situation where Rhode Island customers are best served by engineering firms that also serve other larger markets. The Energy Smart Grocer program delivered by CLEAResult exemplifies this situation, with 25 employees based in Portland, Oregon and Springfield, Massachusetts, including three "local" field staff that did actually visit Rhode Island, used 2.3 FTEs in 2015 to work with 114 Rhode Island customers. Over the same period, CLEAResult worked with 380 National Grid customers in Massachusetts.

At the same time, for other service providers whose business focus is supporting utility initiatives and providing utility program services, the number of FTEs and the number of staff contributing to those counts may be nearly equal. For example, Rhode Island-based RISE Engineering was the lead vendor for many of the largest programs offered in Rhode Island by National Grid, including EnergyWise Single Family and Multifamily, Small Business Direct Install, and the Commercial and Industrial Gas programs. The larger size of these programs required and enabled RISE to employ full-time staff to serve in specific program roles, such as auditors and inspectors. Also, similarities between staffing needs across multiple programs, e.g. for engineering, materials handling, or accounting, allowed RISE to pool staff to provide higher levels of utilization and improved staffing economies. Additionally, similarities in technical needs between programs, e.g. for electricians, allowed RISE to employ a baseline number of full-time technical specialists, but then supplemented them on an as needed basis with sub-contracted assistance. But, at the same time, as new business opportunities in neighboring states have emerged and been secured, RISE has been able to grown further, shifting specialized staff back and forth between states as demand for services dictates, while maintaining or increasing the efficiency of staff utilization and improving labor economics.

As the table shows, the number of FTEs attributable to different programs was not necessarily proportionate to the relative size of program spending. For example, the Large Commercial Retrofit program included a significant installer labor component because the program replaces fully functional equipment. On the other hand, point-of-purchase programs like Upstream Lighting that use incentives to change buyer choices and supplier behaviors, may also replace fully functional equipment, but we assume that customer employees, who we not count as program-driven labor, install a large portion of this replacement lighting. Likewise, both residential and commercial New Construction programs impact the choice of materials, equipment, and construction techniques, but do not significantly increase amount of labor and time needed to construct the building.

Another factor influencing the number of FTEs associated with program spend was whether the energy efficiency measures installed, on a per dollar spent basis, were more labor intensive or equipment intensive. For example, weatherization materials (e.g., cellulose insulation, caulking, foam) to improve thermal performance and reduce air leakage in residential buildings (i.e. for installed insulation and air sealing) are simple and inexpensive. Most of the cost associated with weatherization is labor during the installation process. Other energy efficiency measures such as energy management controls systems, chiller and boiler replacement, or major HVAC upgrades deploy sophisticated, factory-manufactured equipment where the equipment is perhaps the greatest portion of the measure cost. While these measures often require design engineering as well as field labor to install, the considerable manufacturing labor hours is not represented in program FTE counts, so the FTEs per dollar spent is lower.

A countermanding force in terms of job impacts continues to be the ongoing desire of regulators and program administrators to increase the energy saved for each dollar spent. National Grid uses competitive bidding where practical to secure materials and labor vendors, requiring would-be contractors to devise strategies to tighten their belts and structure their workforce ever more cost effectively. Contractors have been increasingly paid on a fixed fee or a performance basis, encouraging them to keep their labor costs down, not only to be more competitive, but also to maximize margins. A vendor delivering a program or performing an installation who is not compensated on an hourly basis naturally looks for ways to maximize worker productivity, resulting in less labor required overall to achieve energy reduction goals and fewer FTEs for Peregrine to count.

Comparing 2015, 2014, and 2013 FTEs

Peregrine has calculated that 695.8 full-time equivalent jobs or “FTEs” were attributable to National Grid’s Rhode Island energy efficiency program spending in 2015, compared to 666.1 FTE jobs in 2014, and 558.9 FTEs in 2013. This represents an increase of 25% over the three years. Over the same period, total energy efficiency program spending and resulting savings increased as well.

During 2013, 2014, and 2015, National Grid’s programs and delivery strategies were not substantively different. The growth in job impacts over those years reflects increased customer and trade ally participation in National Grid energy efficiency programs, increased demand for energy efficient products and related services, and expanded service delivery. Over the same time frame, electric savings grew from 2.1% of 2012 sales in 2013 to 2.9% of 2012 sales in 2015, while gas savings increased from 0.87% of 2012 sales to 1.2% of 2012 sales. The following

section examines trends over the three years and makes several observations regarding impacts that program design, participation, and other dynamics may have on FTEs.

FTE Job Impacts by Program, 2015, 2014, and 2013[22]

	2015 FTEs	2014 FTEs	2013 FTEs
Electric Programs			
Residential Non-Income Eligible	125.4	109.0	98.8
Residential Income Eligible	37.0	38.6	24.1
Commercial and Industrial	210.0	199.5	142.6
Gas Programs			
Residential Non-Income Eligible	172.1	178.0	159.1
Residential Income Eligible	43.8	42.5	34.9
Commercial and Industrial	32.0	27.0	30.3
Community Action Agency staff	34.0	32.5	30.7
National Grid staff	41.6	38.9	38.5
TOTAL RHODE ISLAND FTE JOBS	695.8	666.1	558.9

Increased customer participation

One trend observed over the three year period is that programs experiencing increases in participation tend to experience increased FTEs. For example, the EnergyWise 1-4 Unit Building program for gas and electric customers experienced a growth in audit completions over the three years, with 7,800 audits delivered in 2013, 8,654 in 2014, and 10,055 in 2015. Over this same time period, combined electric and gas FTEs associated with the program increased from

[22] FTEs for 2014 and 2013 were updated to reflect a change in the methodology for counting multifamily and commercial insulation installation labor for 2015 and therefore do not match the previous reports. The updated methodology was applied to the previous counts in multifamily and commercial electric and gas programs so trends could be compared across the three-years. Detailed methodology can be found in Appendix A, page 39.

211.2 in 2013 to 240.1 in 2015. A similar trend is found in the EnergyWise Multifamily and the Income-Eligible Multifamily programs, delivered to both gas and electric customers by RISE Engineering. 4,312 market rate units and 4,876 income eligible units participated in the program in 2015, up from 3,400 market rate and 4,000 income eligible multifamily units in 2014. With this increase in participation, there was a combined corresponding increase from both programs delivered to both gas and electric residential customers from 46.7 FTEs in 2014 to 59.3 FTEs in 2015. Lastly, this can also be seen in the C&I sector where participation in the Large Commercial Retrofit program (electric) increased from 348 customers and 484 applications in 2013, to 430 customers and 578 applications in 2014, and to 459 customers and 614 applications in 2015, with corresponding increases in FTEs.

Broader trade ally engagement

National Grid continued to move away from program delivery models that limit participating vendors to being direct contractors to National Grid and their sub-contractors. This has expanded the opportunities for trade allies to initiate projects with new or existing customers, supported by direct access to National Grid incentives. This has been particularly true in programs serving commercial and industrial customers where one can see an increase in FTEs over the three-year period, particularly in the electric sector. Notable examples of this trend include the Large Commercial Retrofit program (electric) described above where installation contractors, suppliers, and project expeditors drove the sale and installation of energy efficient projects; the Small Business program where an increasing number of electrical contractors are participating under the Customer Directed Option, exploiting existing relationships; and Commercial Upstream Lighting, where electrical contractors used the discounted pricing of products available from lighting distributers to upsell customers to replace standard efficiency lighting with high efficiency product, further driving the market transition.

Changing Measure Mix

In 2014, there had been a significant jump in FTEs supported by the Large Commercial Retrofit program (electric) due to the Toray Plastic America's 12.5 MW combined heat and power project. This project alone had resulted in 42 FTEs of jobs in 2014.

But even without a similarly large CHP project in 2015, the Large Commercial Retrofit program (electric) continued to see an increase in FTEs. We conclude that this is most likely a reflection of the different mix of technologies installed in 2015 and the relatively higher labor intensiveness of installed costs. The units of prescriptive lighting products installed through the Large Commercial Retrofit program increased from 32,692 in 2014 to 89,701 in 2015. These were primarily conversions to LED lighting, with a resultant increase in associated labor from 34.3 FTEs to 71.2 FTEs, an increase nearly equal to the total FTEs associated with the Toray CHP project in 2014.

Additional drivers affecting total FTES

Peregrine also found that total FTEs in the residential sector, generally associated with installation of energy efficiency measures to manage heating costs, can also vary significantly year-to-year. For example, looking at the Income-eligible residential program in 2015, there was a measurable, though not large, drop in FTEs for income-eligible electric customers served from 2014 to 2015. Total FTE's in this category fell by 4% from 2014 to 2015 after a significant jump of 60% from 2013 to 2014. During this same period, the number of income-eligible gas customer FTEs increased slightly from 42.5 in 2014 to 43.8 in 2015, though 2014 represented a significant increase in weatherization and heating system installation activity (22%) compared to 34.9 FTEs in 2013.

Such differences in FTE jobs created year-to-year and fuel-to-fuel can be caused by a number of factors. One factor is, of course, the natural variability of customer preferences, retrofit opportunities at customer residences, and the mix of measures installed as a result. Customer choice and measure mix can often be impacted by changes in energy prices and weather. The very large spike in FTEs for the installation of weatherization materials and heating systems for income-eligible electric customers in 2014 was likely due to the combination of a very cold winter with extraordinarily high oil and propane prices. This may have driven customers on limited fixed incomes to request services from Community Action Agencies. These same cold temperatures likely also drove income eligible natural gas customers to seek assistance in that cold winter, but the relatively lower cost for natural gas probably mitigated that demand and the FTEs created.

Conclusions

The FTE jobs associated with the implementation of energy efficiency services will likely continue to increase during the coming years along with the pace of increased participation and spending on these programs. While such increases in participation and spend appear to correlate closely with growth of FTE jobs, there are other factors in play that can reduce or encourage job creation over time.

- Changing energy costs can affect customer behaviors, encouraging or discouraging customer choice to invest in energy efficiency measures that would result in job creation.
- Continuing evolution of and price drops for energy technology, as has been demonstrated by the emergence and growth of LED lighting, could create new cost-effective installation opportunities for energy efficient products. In the case of LEDs, the availability of low-cost LED linear lamps in the next year or so would result in an opportunity to replace all existing linear fluorescents, re-opening a huge, labor intensive lighting retrofit market that had been maxed out by the limits of fluorescent technology.

- Program design adjustments that further encourage all natural trade allies to make use of incentives available from National Grid, enabling them to sell products and services to existing and new customers can lead to increases in FTEs.

We will watch and see how these influences and factors affect job creation resulting from expenditures for energy efficiency in Rhode Island by National Grid in 2016 and beyond.

Attachment A: Methodologies used for Assessing Employment

Program Support Service Providers

National Grid

National Grid provided to Peregrine a summary of billed hours and FTE counts for employees involved with individual energy efficiency programs in Rhode Island in 2015. Responsibilities of these employees included program planning and development, program administration, regulatory affairs, marketing, evaluation, and market research. Peregrine is reporting National Grid FTEs as a separate category for purposes of this study and not allocating them to specific programs or groups of programs.

Support Services Contractors

Peregrine interviewed most of the larger contractors who supported National Grid in these activities, and they described their roles and responsibilities and provided counts and hours for employees supporting National Grid in Rhode Island. Often, the FTEs Peregrine is reporting represent the aggregation of small numbers of hours by numbers of employees. Often, this was because the contractor's role was required contributions from many members of a multi-disciplinary team. Depending on the nature of the services provided and whether the support role could be associated with specific programs, time of these contractors is assigned to programs according to the overall allocation of gas and electric spend by program sector (Residential, Residential Income Eligible, Commercial and Industrial), or allocated to a specific program sector.

Direct Service Providers

Employee numbers reported by Direct Service Providers was a primary input to FTE counts. Peregrine Interviewed the major contractors directly engaged by National Grid to support or deliver Rhode Island programs to get information about type, number, and responsibilities of personnel employed. Some of these contractors provided the same services in 2015 to National Grid customers in multiple states and in some cases to multiple utilities, often using the same team of employees. Peregrine relied on their informal calculations of allocations of time to Rhode Island when formally reported hours from time cards were not available.

Where employer-sourced information on employment was not available, Peregrine relied on program records and statistics for 2015 to calculate person-hours, person-days, and ultimately annual full time equivalent field staff. Peregrine used Totals for individual energy efficiency measures installed or, in some cases, totals of specific products installed in 2015 to calculate FTEs by multiplying the average time required (in person-hours or person-days) for each installation by the number of installations and converting the result to FTEs based on an

assumed 1,760 work hours per year or 220 work days per year. These unit-based installation times were secured from representative installation companies that performed this work or from organizations that supervised installation activity. In cases where major employers could provide actual installer hours of work to Peregrine, those actual hours or days of work were used instead of calculated FTEs.

Residential Programs

EnergyWise 1 – 4 Unit Residential Program

For the EnergyWise Residential program, Peregrine spoke with RISE Engineering's program manager who provided an overview of how the program functions and changes from 2014, as well as updated FTE counts of RISE employees in various roles based on payroll tracking. We then allocated this total number of FTEs to gas and electric programs.

In 2014, RISE had shared general rules of thumb for how weatherization contractor crews and heating contractors perform site work that had been borne out by direct interviews with a sample of the insulation installation companies and interviews with community action program supervisors with similar responsibilities for low-income residential services. Peregrine continued to use these rules of thumb in 2015 to estimate numbers of FTE insulation and heating system contractor personnel that installed major energy efficiency measures.

Peregrine learned that it takes a crew made up of three insulation contractors an average of two days to complete a weatherization job (insulation and air sealing). National Grid provided counts of numbers of insulation jobs completed by each participating insulation contractors in 2015. We then used the total numbers of insulation jobs and the average number of man-days required for each installation to calculate a total number of FTEs (again, assuming work 220 days per person per year) providing insulation services in 1-4 unit buildings. FTEs were marked up by 20% to account for a contractor's support and management staff.

For heating system installations, we learned that it requires a two-person team four days on average to remove and replace a heating system. Peregrine secured counts of high efficiency heating systems and related equipment installed in 2014 from Blackhawk Engagement Solutions which processes the incentives paid out for these installations. Since Peregrine had differentiated counts for replacements furnaces and boilers, Peregrine assigned less installation time to replacement furnaces (due to less piping work) and adjusted time estimates accordingly. Replacement residential gas equipment was allocated to the gas program and replacement residential oil or propane heating equipment was treated as an expense of the electric program. Average number of hours required for an installation was multiplied by the total number of items installed. The total number of calculated hours was then divided by 1,760 hours to convert it to FTEs, and the FTEs were marked up by 20% to account for a contractor's support and management staff.

EnergyWise Multifamily Residential Program

As with the EnergyWise 1-4 Unit Residential Program, Peregrine interviewed RISE's program manager and was provided with staffing counts. In addition to general program supervision, responsibilities included technical leadership, auditing, field coordination and inspections, and electrical installation work. Again, RISE was able to convert staff counts to FTEs associated with this particular program. Peregrine relied on installation counts from National Grid to determine numbers of individual measures that had been installed by independent insulation contractors and heating contractors in these buildings. As was the case for contractors installing ECMs in 1 to 4 unit buildings, these counts were multiplied by average times for installations in hours or portions or hours, and the resulting total hour counts were divided by 1,760 hours per FTE to arrive at annual FTE counts.

Adjustment to calculation methodology from prior years

Calculations for FTEs for multifamily insulation work had, in prior years, always been calculated in *time per square foot of insulation installed* (unlike for the 1 – 4 unit program where calculations were based on *average total man-days per job*) that had been provided by a Program contractor in 2013. In reviewing this methodology as we began our 2015 calculations, Peregrine found it had insulation for the 1-4 unit program presented both as total jobs and as square feet of production installed and decided to compare total results using the per square foot metric and the man-day metric. In doing so we realized that the square foot metric used for multifamily and commercial insulation labor had been undercounting by around a factor of 10. We calculated and applied a new time factor for "per square feet of insulation installed" in 2015 in these buildings, based on this finding. We also revisited the calculations for multifamily and commercial insulation installation FTEs for 2013 and 2014, revised the FTE counts using the new time factor, and are using these revised total FTEs in the comparison discussion of total 2013, 2014, and 2015 job counts.

Residential New Construction
Residential Home Energy Report Program
Residential Community Based Initiatives
ENERGY STAR® HVAC Program

The residential programs in this grouping were all funded in 2015 by both residential gas and electric year-end spend. For each of these programs, there was no significant incremental labor impact associated with product installed or purchased because the program did not so much affect whether product was installed as it did which product was installed. Peregrine generated FTE counts through interviews with individual businesses that provided support services (e.g. marketing assistance, informational mailings, technical assistance and training, quality assurance inspections). These businesses provided staffing counts for 2015 from their

accounting records. Total FTEs were then allocated to gas or electric based on the ratio of spending in each residential gas and electric program.

ENERGY STAR® Lighting
ENERGY STAR® Products

Both of these programs were funded solely through the residential electric budget. For both programs, there was no significant incremental labor impact associated with amount of product installed or purchased. Further, retailers' staff engaged at the point-of-sale were not counted as incremental FTEs. Peregrine generated FTE counts through interviews with individual businesses that supplied support services (e.g. marketing assistance, refrigerator recycling). These businesses provided staffing counts for 2014 from their accounting records. Total FTEs were then allocated to the residential electric spend.

Low Income Residential Programs

Income Eligible 1-4 Unit Residential

FTE counts for this program for 2014 include program management staff by the program vendor CLEAResult, Community Action Program (CAP) agency staff counts, and calculated labor required to complete installations. CLEAResult staff FTEs came from direct interviews. Total CAP agency staffing was developed from counts of staff in different roles by CAP agency that were put together by the Rhode Island Department of Human Services. National Grid provided the counts of weatherization and heating system installations completed in 2014. CAP agencies provided guidance on contractor crew sizes and installation practices that Peregrine used to calculate the numbers of FTE installers who performed this work.

Income Eligible Multifamily Residential

Peregrine used the same approach to calculating FTEs for the Income Eligible Multifamily program as for the EnergyWise Multifamily Residential Program since both programs were administered by RISE Engineering and used the same delivery strategy.

<u>Adjustment to calculation methodology from prior years</u>

As was the case with EnergyWise Multifamily installations of building insulation, Peregrine applied calculated and applied a new time factor for "per square feet of insulation installed" in 2015 in income eligible multifamily buildings, based on a determination that we had undercounted labor FTEs in prior years. As with the EnergyWise Multifamily program, we revisited the calculations for income eligible multifamily insulation installation FTEs for 2013 and 2014, revised the FTE counts using the new time factor, and use these revised total FTEs in the comparison discussion of total 2013, 2014, and 2015 job counts.

Commercial and Industrial Programs

Small Business Direct Install Program

Peregrine used counts of employees provided by RISE Engineering, the regional program administrator, to generate FTEs for RISE staff involved in program management and measure installations and for their sub-contractors as well. No actual measure counts and calculated FTEs were used to compile job counts attributable to the work of RISE and its subcontractors, as all workers were accounted for without a piecework analysis. Peregrine also calculated additional FTEs associated with the "customer-directed option" (or "CDO") that allowed customers to use an electrician they had an existing relationship with to install program measures and receive the same incentives as were available through RISE. These numbers were based on information from RISE about numbers of electrical contractors that were active through CDO and then cross tabulating this number against installation time that would be required for actual items installed.

CLEAResult provided staff counts for the Smart Grocer sub-program. National Resource Management (NRM) tallied total hours of individual support staff by responsibility, as well as provided FTE counts of installers it employed.

Large Commercial Retrofit Program (electric)

As described in the section on energy program delivery, the Large Commercial Retrofit program was the most market-based of all electric programs provided. There was no program manager under contract to facilitate or organize installation work. Customers initiated projects, as did businesses that had products or services they were trying to sell.

Peregrine used National Grid's descriptions and counts of technical assistance and installations performed during 2015 to calculate workforce impacts. They only exception to this approach was counts Peregrine secured from interviews with Project Expeditors regarding sales and project management staff they were employing to secure and oversee projects.

National Grid provided engineering services to customers through retained contractors, in particular where "custom" energy efficiency solutions required technical support to determine what could be done, what should be done, what energy savings would result, and what incentive levels were appropriate. To calculate the FTEs associated with technical assistance support provided by engineers under contract to National Grid, Peregrine took the total dollars paid out for this work and calculated how many hours of labor it represented at an assumed $120 per hour. Total hours were then converted to FTEs.

Installation work performed was treated in a number of ways, depending on how much information was available to Peregrine in the data sets supplied by National Grid. For Upstream

Lighting, National Grid provided counts of product sold, which Peregrine converted to installation hours using per unit labor requirements and then counted the times for installations by electrical contractors that purchased these materials on behalf of customers.

Large Commercial Retrofit projects that were identified as part of a specific technology group (e.g. lighting, motors) and that had counts of products installed were the easiest to develop FTE estimates for. In other cases, particularly "custom" projects where installation numbers might be missing or no separate labor cost component of projects is identified to National Grid for these projects, Peregrine extrapolated labor required from total cost. Peregrine used the average installation times provided to us by installation vendors to estimate workforce requirements and number of hours or days (for more labor intensive projects) per installation and converted this to FTEs. In doing these calculations, Peregrine did not concern itself about whether the contractor of record for the job was a customer, a general contractor, or an installation contractor. We assumed that installation contractors who were motivated to work as efficiently as possible were doing the installation work.

For larger, more complex custom projects, the energy efficiency project component of the total cost may only be a portion of the total project cost identified in the National Grid database so Peregrine used incentive levels paid out to tease out the total efficiency project cost. This required comparing incentives paid for simple projects and the complex custom projects covered by the program to determine the efficiency project size. Once the size of the efficiency project was determined, we could apply assumptions about the ratios of labor cost to material cost for different technologies and calculate the type and number of labor hours this represented, aggregate the total hours, and convert them to FTEs.

Commercial and Industrial Gas Programs

The Commercial and Industrial Gas programs were managed for National Grid by RISE Engineering, and Peregrine interviewed RISE to secure counts of RISE employees and FTEs. A variety of contractors installed energy efficiency measures installed. Peregrine used measure counts that National Grid provided to calculated how many FTEs of labor they represented, applying average installation times provided to us by installation vendors, determining how many hours or days were required in aggregate, and converting these hours or days to full-time equivalent jobs.

Attachment B: Interview Guide

National Grid 2015 RI Labor Study
Organization Interview Guide

Interview date:

National Grid Program:

Program overview and how delivered/program volumes in 2015:

Supplier company/organization:

Interviewee/position/phone/email:

Company role (i.e. services provided):

Changes from prior year?

How long has company been involved in the program? ____

Staff assigned:

- Name/Title/Role Number / FTEs Pay (salary, hourly, piece, commission)?

Location(s) of office(s) providing services and activities:

RI based staff?: Yes/No. Head count? _____

Are sub-contractors used?

- Names Roles compensation type Contact info

Are there installation contractors involved in service delivery to Nat Grid customers?

- Names Roles compensation type Contact info

Does Program result in increased employment or additional hours for RI contractors?

Additional comments:

Attachment C: Participating Companies

The list includes contractors and subcontractors performing work directly for National Grid Energy Efficiency programs in 2015 that were counted in the FTE analysis and additional companies who assisted customers to secure equipment rebates, for example through the New Construction, High Efficiency HVAC programs, and upstream lighting. The list also includes the Community Action Program agencies and their subcontractors involved with the delivery of the low-income program, whether under National Grid funding or WAP/LIHEAP/ARRA funding.

Of the 1,009 companies, agencies, contractors and sub-contractors listed here, 793 (79%) are either headquartered in Rhode Island, or have a physical presence in Rhode Island. The list is organized first by state (alphabetically), and then alphabetically by company name. To find the Rhode Island companies, move to the first appearance of "RI" in the far right column.

Vendor	Town	State
Accurate Background, Inc.	Irvine	CA
Bigspeak Inc.	Santa Barbara	CA
Energy Efficiency Funding Group Inc.	San Francisco	CA
Interviewing Service of America	Van Nuys	CA
Nest Labs Inc.	Palo Alto	CA
Regency Lighting	Chatsworth	CA
Waypoint Building Group	San Francisco	CA
Heschong Mahone Group Inc.	Gold River	CA
Apex Analytics	Boulder	CO
E Source Companies LLC	Boulder	CO
AMCO and Co.	Dayville	CT
AMS Greensolutions LLC	Willington	CT
Best Energy Plumbing Heating Air Conditioning	Pawcatuck	CT
Competitive Resources Inc.	Yalesville	CT
D Mac and Son	Moosup	CT
DDLC Energy	New London	CT
George Chartress	Norwich	CT
Greenleaf Energy Solutions	Oxford	CT
Harrington Plumbing and Heating	Pawcatuck	CT
Irvin McLaughlin Ebd	North Grosvenor Dale	CT
JK Muir LLC	Durham	CT
Lantern Energy, LLC	Norwich	CT
Nick Zaharie	Pawcatuck	CT
Shannon NRG Resource	Waterbury	CT
Techniart Inc.	Collinsville	CT
Upland Construction Group	North Stonington	CT
Wattsaver Lighting Products Inc.	East Hartford	CT

WJR Plumbing and Heat	Voluntown	CT
American Council for an Energy-Efficient Economy	Washington	DC
Energy Solutions Center	Washington	DC
Smartpower	Washington	DC
A Led Lights LLC	Jacksonville	FL
Apollo Lighting	Fort Lauderdale	FL
Green Lumens LLC	Boca Raton	FL
Pro. Unlimited Inc.	Boca Raton	FL
Hill Phoenix Inc.	Conyers	GA
National Energy Educational Development Need	Manassas	GA
Innerworkings Inc.	Chicago	IL
Gexpro	Indianapolis	IN
3-D Lighting	Franklin	MA
A Plus J Home Air	Attleboro	MA
Action Inc.	Fall River	MA
Advanced Plumbing and Heating	Seekonk	MA
Alternative Creative Energy and HVAC Inc.	Blackstone	MA
Alternative Weatherization, Inc.	Fall River	MA
American Plant Maintenance	Woburn	MA
Anctil Plumbing and Heating Inc.	Somerset	MA
Andelman and Lelek Engineering Inc.	Norwood	MA
Anthony F Vieira III Heating and Air Conditioning	Attleboro	MA
Apollo Brothers LLC	Fitchburg	MA
Araujo Bros Plumbing and Heating	New Bedford	MA
B2Q Associates Inc.	Andover	MA
Backlund Electric Corporation	Norfolk	MA
BDL Heating and Cooling Inc.	North Attleboro	MA
Beaupre Electric	Assonet	MA
Ben Therrien Home Improvement	Attleboro	MA
Bob Costa	Seekonk	MA
Briggs Mechanical Inc.	North Attleboro	MA
Bruin Corp.	North Attleboro	MA
Building Science & Construction	Braintree	MA
C & S Electric	Groveland	MA
Caliber Building and Remodeling	Sandwich	MA
Camaras Heating and Air Conditioning Services	Westport	MA
Center for Ecological Technology	Florence	MA
Champion Resources	Ipswich	MA
Cloud Sherpas LLC	Boston	MA
Columbus Energies Inc.	Swansea	MA
Compressed Air Technologies Inc.	Shutesbury	MA
Conservation Services Group Inc.	Westborough	MA

Consolidated Marketing Services	Burlington	MA
Consortium For Energy Efficiency	Boston	MA
Controlled Temperature Heating & AC	Westport	MA
Conventures Inc.	Boston	MA
Coolidge Coolant Company Inc.	Waltham	MA
Copland Mechanical Services Inc.	South Attleboro	MA
Copperline Plumbing and Heating	Rehoboth	MA
Dalpes P and M Services Ltd	Bellingham	MA
Datasense Solutions Inc.	Waltham	MA
Deschenes Plumbing and Heating	North Attleboro	MA
DMI	Wellesley	MA
Don Dalpe Plumbing	Blackstone	MA
Douglas Ahaesy Electric	Fall River	MA
DW Smith Plumbing and Heating HVAC	Uxbridge	MA
E & V Oil Co Inc.	Swansea	MA
Ecast Video LLC	Boston	MA
Ecova Inc.	Boston	MA
Einhorn Yaffee Prescott Architecture	Boston	MA
EM Corbeil Inc.	Millville	MA
ENE Systems Inc.	Canton	MA
Energy & Resource Solutions Inc.	North Andover	MA
Energy Federation Inc.	Westborough	MA
Engineered Solutions Inc.	Natick	MA
Ferreira Builders	Attleboro	MA
FL Machado Plumbing and Heating LLC	Seekonk	MA
Forest Hills Electrical Supply Inc.	Randolph	MA
GH Electrical Service	Attleboro	MA
GM Refrigeration	Fall River	MA
Graybar	Boston	MA
Greenleaf Associates Inc.	Weston	MA
Gustave Mattos Electric Co Inc.	Fall River	MA
Heating and Air Conditioning Contractors	Swansea	MA
HVAC 360	Rehoboth	MA
IBM Corp.	Cambridge	MA
Indresano Energy Company	Wellesley Hills	MA
Inline Plumbing and Heating	Fall River	MA
Insulate 2 Save	Fall River	MA
Jaco Environmental	Franklin	MA
Jaquez General Contractor	Lynn	MA
Jarosz Plumbing and Heating	Rehoboth	MA
Jay Sheldons Heating	Seekonk	MA
JPS Plumbing Heating and Air Conditioning	Westport	MA

KEMA	Burlington	MA
Larrys Heating and Ac	Rehoboth	MA
Lavoie	Seekonk	MA
Lewis Rheaume Plumbing and Heating	Seekonk	MA
Litemor	Norwood	MA
Lockheed Martin	Burlington	MA
LS Heating and Air Conditioning	Seekonk	MA
M & M Plumbing and Heating Inc.	Rehoboth	MA
M Sardinha and Sons Plumbing and Heating Inc.	Fall River	MA
Marcs Sheet Metal Inc.	Assonet	MA
Mark Cordery HVAC	Berkley	MA
Matt Machado Plumbing and Heating	Dighton	MA
MJ Electric and Refrigeration LLC	Rehoboth	MA
Motus LLC	Boston	MA
National Resource Management	Canton	MA
NESCO	Canton	MA
New Ecology Inc.	Boston	MA
New England Energy Management Inc.	Leominster	MA
New England Weatherization, LLC	Attleboro	MA
Nexant Inc.	Burlington	MA
Next Step Living	Boston	MA
Northeast Efficiency Supply (NES)	Sutton	MA
Northeast Electrical and Mechanical Services Inc.	Walpole	MA
Northeast Energy Efficiency Partnerships	Lexington	MA
O'Brien & Neville Inc.	Holliston	MA
Olean Mechanical	Seekonk	MA
O'Neill Mechanical Services	Seekonk	MA
Opinion Dynamics Corporation	Waltham	MA
Opterra Energy Services	Norwell	MA
P & P Plumbing	West Roxbury	MA
Pacheco-Cooke Electrical	North Attleboro	MA
Patriot Sheet Metal HVAC	Seekonk	MA
Paul Whitman Electrical	Pembroke	MA
Peregrine Energy Group	Boston	MA
Propane Plus Heating and Cooling	Rehoboth	MA
Quality Climate Control Inc.	Fall River	MA
Rebello Weatherization Inc.	Swansea	MA
Reis Electric	Westport	MA
Rethinking Power Management	Boston	MA
Retrocool Energy Inc.	Natick	MA
Retrofit Insulation	Fall River	MA
Rhode Island Sheet Metal LLC	Rehoboth	MA

Rickard and Sons Plumbing and Heating	Seekonk	MA
Ritchie's Insulation	Westport	MA
River Energy Consultants	Fall River	MA
Robert Main	Seekonk	MA
Roia Jason Electrical	North Dartmouth	MA
Ronald Houde	Somerset	MA
Sacks Exhibits	Wilmington	MA
Savio Lighting	Needham	MA
Southeastern Gas Services LLC	Swansea	MA
Standard Electric	Wilmington	MA
Steam Trap Systems	Amesbury	MA
Sylvia Contracting	Acushnet	MA
Tetra Tech Ma Inc.	Boston	MA
The Cadmus Group Inc.	Waltham	MA
The Gas Man	Brockton	MA
The Heating Man	Rehoboth	MA
The Royal Flush Plumbing Inc.	Seekonk	MA
Theroux Mechanical	South Attleboro	MA
TJ's Plumbing and Heating Inc.	Attleboro	MA
TNZ Energy Consulting Inc.	Stoughton	MA
Triangle Refrigeration	Fall River	MA
Valley Plumbing and Heating	Kingston	MA
Vaughan Plumbing	Dedham	MA
Veolia ES Technical Solutions LLC	Boston	MA
Watermark Electric Co	Somerset	MA
Wayne Griffin Electric Co	Holliston	MA
Weston & Sampson Cmr, Inc.	Peabody	MA
Bulbs.Com	Worcester	MA
Earth Networks Inc.	Germantown	MD
Boyko Engineering Inc.	Gorham	ME
Douglas C Baston	Alna	ME
Controltec LLC	Allen Park	MI
Energy Management Collaborative LLC	Plymouth	MN
Compressor Energy Service	Merrimack	NH
FW Webb	Amherst	NH
IMMI (International Marketing Management, Inc.)	Portsmouth	NH
KT&T Distributors Inc.	Nashua	NH
Weller & Michal Architect	Harrisville	NH
Clear Energy LLC	Bloomfield	NJ
CMC Energy Services Inc.	Cranbury	NJ
Ideas Agency Inc.	Blairstown	NJ
Russell Marketing Research	East Rutherford	NJ

SHI International Corp.	Somerset	NJ
AM Home Delivery	Brooklyn	NY
Edoe Inc.	New York	NY
Illuminating Engineering Society	New York	NY
Integral Group	New York	NY
Integrated Marketing Services Inc.	Liverpool	NY
MRY US LLC	New York	NY
Owens Kopilak Klein Lurie	New York	NY
Ram Marketing	Saint James	NY
SPPRO Inc.	Bronx	NY
Questline Inc.	Columbus	OH
Ecobee Inc.	Toronto	ON
Real Winwin Inc.	Philadelphia	PA
2 Sons Electric LLC	East Providence	RI
2Story Design Build	Providence	RI
3Js Plumbing	Warwick	RI
A & C Burner Service HVAC	East Providence	RI
A & I Electric	Pawtucket	RI
A & J Electric	Cranston	RI
A & L Plumbing Mechanical and Consulting	Westerly	RI
A & M Compressed Air Products Inc.	Providence	RI
A & T Construction	Warren	RI
A E Costa Electrical Contractor LLC	Warwick	RI
A Perry Plumbing and Heating	Coventry	RI
A Rooter Man Plumbing Heating Drains	Providence	RI
A.R. Heating and Cooling Inc.	Providence	RI
A.T. Electric Contractors	Providence	RI
A1 Electrical Construction LLC	North Providence	RI
ABC Heating Services	Bristol	RI
Abernathy Lighting Design Inc.	North Providence	RI
ABM Enterprises Inc.	Exeter	RI
Aces Plumbing and Mechanical	North Providence	RI
Acme Electric Inc.	North Providence	RI
Acorn Maintenance	Warwick	RI
ACR Construction and Management Corporation	Pawtucket	RI
ADI Energy	Warwick	RI
ADM Contractors	Albion	RI
Advance Electrical Corporation	Providence	RI
Advanced Comfort Systems Inc.	North Smithfield	RI
Affordable Building and Weatherization Inc.	East Greenwich	RI
Affordable Heating and Air Conditioning Services	Providence	RI
Affordable Insulation Inc.	Providence	RI

AIA and Sons Construction	Warwick	RI
Air Conditioning Services Of New England Inc.	Cranston	RI
Air Metalworks Ltd	North Providence	RI
Air Synergy Cooling and Heating Systems Specialist	Providence	RI
Air Tech Heating and Air Conditioning	Rumford	RI
Air Temp	Riverside	RI
Aire Serv Heating and Air Conditioning	Pawtucket	RI
Airhart Electric Inc.	Coventry	RI
AJC Electrical Services LLC	Cranston	RI
AJ's Contractors	Providence	RI
Al Swajian and Son Plumbing and Heating	Cranston	RI
Alan Jerauld	North Providence	RI
Alan Paul Electric	Warwick	RI
Albert S Gizzarelli Plumbing and Heating Inc.	Greenville	RI
All In One Plumbing Heating and Cooling	West Warwick	RI
All Phase Heating Concepts	Woonsocket	RI
All Seasons Heating and Air Inc.	Johnston	RI
All Star Insulation	Providence	RI
Allan Menard Plumbing LLC	Pawtucket	RI
Allen Plumbing and Heating	North Providence	RI
Alliance Plumbing and Heating Inc.	Cumberland	RI
Almeida Plumbing and Heating and Air Inc.	Greenville	RI
Alpha Electrical Contractors Inc.	Riverside	RI
Alpha Mechanical	East Providence	RI
Al's Plumbing and Heating	West Warwick	RI
Alternative Heating and Cooling	Cranston	RI
AMC Construction Service	West Warwick	RI
American Development Institute Inc.	Warwick	RI
American Electric Service Inc.	Cranston	RI
American Home Heating and Air Conditioning Inc.	Providence	RI
Amity Electric	Wyoming	RI
AMJ Contracting	Cranston	RI
Anchor Insulation	Pawtucket	RI
Anchor Plumbing and Heating Company Inc.	Providence	RI
Andy's Overhead Electric	Kingston	RI
Angell Heating and Cooling	Peace Dale	RI
Anibal Ramos	Providence	RI
Anne The Plumber	Woonsocket	RI
Anthony Berard	Cumberland	RI
Anthony Januario Heating Co	Bristol	RI
Anthonys Quick Plumbing and Heating	Johnston	RI
Antonio's Electric Company	East Providence	RI

Anytime Plumbing Service	Harrisville	RI
APuzzo Plumbing and Heating	North Scituate	RI
Arden Engineering Constructors LLC	Pawtucket	RI
Ardente Supply Co Inc.	Providence	RI
Armor Plumbing	Exeter	RI
Arthor Dipetrillo Plumbing and Heating	Johnston	RI
Arthur W Adler	Bristol	RI
Aten Energy	Pawtucket	RI
Atlantic Control Systems	Exeter	RI
Atlantic Supply Inc.	Coventry	RI
Atlantis Comfort Systems Corp	Smithfield	RI
Atlas Insulation	North Scituate	RI
Auburn Electric Company	Cranston	RI
Autiello Plumbing and Heating LLC	Cranston	RI
Automatic Heating Equipment Inc.	Providence	RI
Azverde Electric Co	Cumberland	RI
B & B Consumers Natural Gas Service	Woonsocket	RI
B & J Matzner	Warwick	RI
B & K Electric, LLC	Cranston	RI
B & P Plumbing and Heating	Westerly	RI
Baptista Electric	Cumberland	RI
Barlow Heating LLC	Warwick	RI
Barradas Construction Co., Inc.	Pawtucket	RI
Barrington Plumbing and Heating	Barrington	RI
Bay Plumbing Service Inc.	North Kingstown	RI
Baynes Electric	Westerly	RI
Bayside Electric Company	Warwick	RI
Beacon Electric	East Providence	RI
Beauchemin Design	North Smithfield	RI
Berard Heating and Mechanical	Warwick	RI
Bermudez Plumbing and Heating	Pawtucket	RI
Bert Gardiner Plumbing	Charlestown	RI
Bertrand Plumbing Inc.	Pascoag	RI
Big Dog Plumbing and Heating	Ashaway	RI
Bileau HVAC Inc.	Woonsocket	RI
Bill Gardiner Plumbing and Heating LLC	East Providence	RI
Bill Gornostai Electric	Warwick	RI
Bill Handyman/Painting	Smithfield	RI
Bill The Plumber	North Smithfield	RI
Bills Heating Service Inc.	Warwick	RI
Blackstone Valley Community Action	Pawtucket	RI
Bluestone Energy Services Ltd	Providence	RI

Bob Larisas Plumbing and Heating Inc.	Barrington	RI
Bob Martel Plumbing and Heating	Central Falls	RI
Bob Sequeira	West Warwick	RI
Bodell Plumbing and Heating	South Kingstown	RI
Botelho Electric	Cranston	RI
Boucher HVAC	Wakefield	RI
Boulevard Plumbing and Heating	Middletown	RI
Bradley Plumbing and Heating	East Providence	RI
Bradley R Highling LLC	North Kingstown	RI
Brandon Schiano	Cranston	RI
BRH Electric	East Providence	RI
Brian Amadon	Coventry	RI
Brian Cargill HVAC Inc.	Cumberland	RI
Brians Heating Concepts Inc.	Tiverton	RI
Bristol County Plumbing and Heating LLC	Bristol	RI
Briteswitch LLC	Warwick	RI
Brookside Electric	Westerly	RI
Bruno & Son Electric Inc.	Providence	RI
BSH Heating and Appliance	Barrington	RI
Buckley Heating and Cooling	Wakefield	RI
Build Pros	Pawtucket	RI
Buono Electric	Johnston	RI
Burbanks Plumbing and Heating Inc.	North Kingstown	RI
Burns Cold Heating and Cooling	West Warwick	RI
Butler and Sons Plumbing and Heating Inc.	Providence	RI
BZ Electric	West Warwick	RI
C & D Mechanical	Cranston	RI
C & K Electric Company Inc.	Providence	RI
C & L Energy Corp	Cranston	RI
C.J. Nemes Inc.	Woonsocket	RI
C.W. Cummings Plumbing Company Inc.	Coventry	RI
Cal Supply Co., Inc.	Cranston	RI
Calcourt Heating Inc.	Little Compton	RI
Caldwell & Johnson Inc.	North Kingstown	RI
Calyx Retrofit	Lincoln	RI
Canales Construction	Lincoln	RI
Candela Systems	Cranston	RI
Capitol Plumbing Company	Cumberland	RI
Capwell Heating and Air Conditioning	Greene	RI
Carello Plumbing	East Providence	RI
Carjon Air Conditioning and Heating Inc.	Smithfield	RI
Carl Mancuso Construction & Plumbing Inc.	Warwick	RI

Carl Pecchia Heating Contractor LLC	Johnston	RI
Carlos Silva	Pawtucket	RI
Carter Bros Inc.	Pascoag	RI
Carter Plumbing and Heating Co.	Warren	RI
Cassana HVAC LLC	North Providence	RI
Century Heating	Smithfield	RI
Charette Plumbing	Richmond	RI
Charland Oil Company	Pawtucket	RI
Charles Doherty	Warwick	RI
Chaves Plumbing & Heating	Middletown	RI
Chris Electric Ltd	Middletown	RI
Cipriano Plumbing and Heating	Wakefield	RI
CK Contractors Inc.	Providence	RI
Clearesult	Providence	RI
Clermont Mechanical Plumbing & Heating Services	Glendale	RI
Climate Masters	Providence	RI
Coast Modern Construction	Providence	RI
Cola Plumbing and Heating Inc.	North Kingstown	RI
Colaluca Plumbing and Heating	Johnston	RI
Comfort Zone Inc.	Hopkinton	RI
Community Action Partnership of Providence	Providence	RI
Comprehensive Community Action	Cranston	RI
Conti Sheet Metal	Providence	RI
Continental Heating and Cooling Indoor Air Quality	Johnston	RI
Corrigan Plumbing	Warwick	RI
Cost Modern Construction	Providence	RI
Cox Electric LLC	Narragansett	RI
CP Plumbing	North Kingstown	RI
CRM Modular Homes	Johnston	RI
Cross Insulation	Cumberland	RI
Crown Petroleum Plumbing and Heating Inc.	Barrington	RI
Crown Supply Company Inc.	Providence	RI
Crystal Plumbing and Heating Inc.	Providence	RI
CSV Mechanical Inc.	Wakefield	RI
Cumberland MG Land LLC	Cumberland	RI
D & D Electric Company	East Greenwich	RI
D & D Home Industrial Services	North Providence	RI
D & J Plumbing and Heating Inc.	Cumberland	RI
D & S Construction Company	Lincoln	RI
D & V Mechanical Inc.	Westerly	RI
D. Costa Electric Company LLC	East Providence	RI
D. Gallagher Plumbing	Coventry	RI

Dan Bracewell	Lincoln	RI
Danfoss LLC	Johnston	RI
Daniel Charette Plumbing	Hope Valley	RI
Daniel Prentiss	Providence	RI
Daniel Simoes Electric	Exeter	RI
Daniels Plumbing	Warwick	RI
Dante Gonzales	Providence	RI
Danti and Sons Plumbing and Heating Inc.	Pascoag	RI
David Ciancio SR	Providence	RI
David E Berardinelli Plumbing and Heating	Providence	RI
David Narcisi Plumbing and Heating	Warwick	RI
David Parrillo Plumbing and Heating LLC	Hope	RI
David W Bradley Plumbing and Heating Inc.	East Providence	RI
Davidsons Plumbing and Heating	Warwick	RI
Dayco Electric	Warwick	RI
Deal Electric	East Greenwich	RI
Delmonico Enterprises -Plumbing and Heating Doc	Cranston	RI
Dels Plumbing and Heating	North Scituate	RI
Desimone Electric	Cranston	RI
Desmarais Plumbing and Heating Inc.	Johnston	RI
Dessaint Electric Co Inc.	Warwick	RI
DFS Plumbing Services	West Greenwich	RI
Difazio Electric	West Warwick	RI
Dimeglio Builders LLC	Cranston	RI
Dionne and Sons	Coventry	RI
Direct Home Improvement	West Greenwich	RI
Dirocco Plumbing and Services LLC	North Providence	RI
Divona Plumbing and Heating Co	Cranston	RI
DJs Plumbing Services	West Greenwich	RI
DK Plumbing	Pawtucket	RI
DLD Plumbing & Mechanical Co. Inc.	Tiverton	RI
Don Allard	Woonsocket	RI
Don Jordan Construction	Foster	RI
Don Mendes Electrician	Providence	RI
Donovan and Sons Inc.	Middletown	RI
DPS Plumbing and Heating	Hope	RI
Drivers Plumbing and Mechanical Inc.	Providence	RI
DSA Mechanical	Barrington	RI
Dupuis Energy	Pawtucket	RI
Durante Electric	Lincoln	RI
Dynamic Air Systems Inc.	East Providence	RI
E & M Plumbing and Heating	Foster	RI

E.G. Electric Co.	East Greenwich	RI
EA Marcoux and Son Inc.	Woonsocket	RI
East Coast Remodeling	Johnston	RI
East Greenwich Oil Co Inc.	East Greenwich	RI
Eastbay Community Action	Riverside	RI
Eastern Electric	Cranston	RI
Eastern Plumbing Co Inc.	North Kingstown	RI
Ecologic Spray Foam Insulation Inc.	Jamestown	RI
Econ Electric Contractors	Bristol	RI
Edmond Alvares	Greenville	RI
Ed's Plumbing and Heating	Tiverton	RI
Edward A Tomolillo	North Providence	RI
Edward C Silvia Plumbing and Heating Contractor	Middletown	RI
Electrical League of RI	Warwick	RI
Electrical Wholesaler Inc.	Cranston	RI
Electro-Tec Systems Inc.	Lincoln	RI
Elmhurst Engineering Inc.	Providence	RI
Emergency Response Plumbing Heating & AC	Warwick	RI
Energiwise Inc.	East Providence	RI
Energy 4 Life Building Performance LLC	Smithfield	RI
Energy Conservation Inc.	South Kingstown	RI
Energy Efficient Exteriors, Inc.	Lincoln	RI
Energy Efficient Plumbing Technologies	Cranston	RI
Energy Geeks	North Smithfield	RI
Energy One Southern Mechanical	West Warwick	RI
Energy Source LLC	Providence	RI
ESCO Energy Services Company	Newport	RI
Eurotech Climate Systems LLC	Pawtucket	RI
Evergreen Plumbing and Heating Co., Inc.	Warwick	RI
EW Flagg Plumbing and Heating	Warwick	RI
F & S Electric Inc.	Bristol	RI
Feather HVAC	Cumberland	RI
Feula Plumbing and Heating LLC	Johnston	RI
FG Lees and Son Plumbing and Heating	Providence	RI
Figliozzi Plumbing and Heating	Peace Dale	RI
First Choice Plumbing	East Providence	RI
Five Star Plumbing and Heating	Johnston	RI
Fleet Plumbing and Heating Inc.	North Scituate	RI
Fletcher Heating Burner Repairs	Ashaway	RI
FLOU PHCC First Quality Installations	Saunderstown	RI
Francis Heating and Hydronics	East Providence	RI
Francis Plumbing	Bristol	RI

Frank Dimaio Heating LLC	Cranston	RI
Frank Lombardo and Sons Inc.	Providence	RI
Fred Manuppelli Plumbing and Heating	Johnston	RI
Fredrick Bailey P&H	Johnston	RI
Fressilli Plumbing Inc.	Riverside	RI
Frontier Mechanical LLC	Providence	RI
Fullport Plumbing and Heating	Rumford	RI
G & L Electric Inc.	Woonsocket	RI
Gambit Electric Inc.	Johnston	RI
Garbiner Construction Inc.	Narragansett	RI
Gas Doctor	Providence	RI
Gas Master Inc.	Little Compton	RI
Gas Pro Inc.	Cumberland	RI
Gasman NC	Warwick	RI
Gasperts	Smithfield	RI
Gem Air Services Inc.	Pawtucket	RI
Gem Plumbing and Heating Services Inc.	Lincoln	RI
Glenn J Martinelli	West Greenwich	RI
Globex Industries Inc.	Narragansett	RI
GM Perron and Son Plumbing and Heating	North Smithfield	RI
Golden Installations	Smithfield	RI
Gordon Goncalves	Riverside	RI
Goulart Petroleum Inc.	Little Compton	RI
Granite City Electric Supply Inc.	Pawtucket	RI
Gravel Electric Inc.	Harrisville	RI
Greanseal Insulation	North Kingstown	RI
Greenville Insulation Company Inc.	Smithfield	RI
Greenwich Insulation	West Greenwich	RI
Greenwood Plumbing and Heating	Warwick	RI
Gregg Balnchette	North Smithfield	RI
Griff Electric LLC	Portsmouth	RI
Groom Energy Solutions	Providence	RI
Guardian Energy Management Solutions	Middletown	RI
Gunn Inc.	Westerly	RI
Guy Clermont Plumbing and Heating	Cranston	RI
H.K. Heating Inc.	Greene	RI
H.V. Holland Inc.	Jamestown	RI
Harris Plumbing and Heating Inc.	Narragansett	RI
Hawkes Plumbing and Heating Co Inc.	Chepachet	RI
HD Supply Facilities Maintenance	Warwick	RI
Heat Tech LLC	Warwick	RI
Heavenly Homes Plumbing and Heating	Cranston	RI

Heffernan Mechanical Services	Warwick	RI
Henderson Electric	Warwick	RI
Henry Oil	Providence	RI
HF Robinson and Sons Plumbing and Heating	Cranston	RI
HH Heating	Lincoln	RI
Hill Electrical Services	Cumberland	RI
Hodson Heating and Cooling	Harrisville	RI
Holiday Home Builders	Lincoln	RI
Holland Electric	Peace Dale	RI
Home Style Construction	North Providence	RI
Homestead Plumbing	Johnston	RI
Horizon Solutions LLC	Smithfield	RI
Houle Plumbing and Heating	Greene	RI
Howard Saucier	Pawtucket	RI
Howard's Heating Service	North Kingstown	RI
Hutchins Electric	Greenwich	RI
HVAC Inc.	Cumberland	RI
Hynson Electrical Services Inc.	Bristol	RI
Ianniello Plumbing & Heating Co	Cranston	RI
Iasimone Plumbing-Heating & Drain Cleaning Inc.	North Providence	RI
ICSNE Inc.	Warwick	RI
Industrial Burner Service Inc.	Providence	RI
Interstate Electrical Services	Warwick	RI
IPS	Cranston	RI
Ironman Heating and Cooling	Riverside	RI
Island Carpentry Inc.	Newport	RI
IWIRE Electrical Services and Fire Alarm	Providence	RI
Izzo & Sons Electric	Providence	RI
J & A Electric	Providence	RI
J & J Electric	Warwick	RI
J & J Plumbing and Heating Inc.	Johnston	RI
J & M Plumbing LLC	Coventry	RI
J & R Contractors Inc.	Coventry	RI
J Argenti & Sons Electric LLC	Johnston	RI
J Dasilva Plumbing and Drain Cleaning	Pawtucket	RI
J Dunford Plumbing and Heating	West Greenwich	RI
J Joyce Plumbing and Heating Inc.	Warwick	RI
Jack Kenny	West Greenwich	RI
Jacobson Energy Research LLC	Providence	RI
James P Insana	Portsmouth	RI
Janton Electric Contractors	West Warwick	RI
JAS Plumbing	North Providence	RI

Jatwire Electric LLC	Tiverton	RI
JD Mechanical Inc.	Greenville	RI
JD Mello Plumbing and Heating Inc.	Newport	RI
Jed Electric Inc.	Greene	RI
Jeff Berard Heating	Warwick	RI
Jefferson Electrical Corp	Pawtucket	RI
Jenkins Heating	Smithfield	RI
Jimenez Plumbing and Heating	Providence	RI
JJ McNamara Electric	Providence	RI
JKL Engineering Company Inc.	Providence	RI
JM Construction	Warwick	RI
JMAC Plumbing and Heating Inc.	Warwick	RI
Joe Chaves Heating and Plumbing	Middletown	RI
Joe Falcone Plumbing & Heating	Westerly	RI
Joe Gruttadauria Plumbing and Heating	Johnston	RI
Joe Palombo Plumbing Heating and Cooling	West Kingston	RI
Joe Roy's Plumbing and Heating	Millville	RI
Joe Soave	Providence	RI
Joe Vigneault Electrician	Riverside	RI
Joel Matzner Residential Plumbing and Heating	Warwick	RI
John Babcock Plumbing Heating Unlimited	Westerly	RI
John Berard Plumbing	North Providence	RI
John Farren	Johnston	RI
John McDonough Electrician	Exeter	RI
John Nicholson Mechanical Contractor	North Scituate	RI
John Perrault	Woonsocket	RI
John R Bileau HVAC	Woonsocket	RI
John Simard Electric Contractor	North Smithfield	RI
Johnny Home Solutions LLC	Central Falls	RI
Johnny Mack Electric	Narragansett	RI
Johnny's Oil and Heating Inc.	Providence	RI
John's Heating	Riverside	RI
Johnson and Johnson Plumbing and Heating Inc.	Saunderstown	RI
Joseph A Gelinas Plumbing	Warwick	RI
Joseph A Palmieri Plumbing	Cranston	RI
Joseph Brito	Providence	RI
Joseph Giorno Plumbing and Heating	Cranston	RI
Joseph Truppi Electric	Cranston	RI
Joshua B Tait Electric	Riverside	RI
Jouberts Heating and Air Conditioning	Warwick	RI
Jow Vigneault Electrician	Providence	RI
JP Ari Pereira	Middletown	RI

JP Island General Services	Middletown	RI
Juan Villanueva	Cumberland	RI
Julio De La Rosa	Providence	RI
Just Heat	Portsmouth	RI
K & B HVAC LLC	North Providence	RI
Kafin Oil Company Inc.	Woonsocket	RI
Kenneth Hallberg	Warwick	RI
Kenneth P Adams	Cranston	RI
Kens Heating	Providence	RI
Kesslers Sheet Metal Co Inc.	Cranston	RI
Kevin Barry	Warwick	RI
Kevin Cilley	Westerly	RI
Kevin L Masse	Johnston	RI
Kevin Lahane	Tiverton	RI
KMB Plumbing Inc.	Warwick	RI
Koolco Inc.	Wakefield	RI
Kwik Plumbing and Heating Inc.	Johnston	RI
L & B Remodeling	North Providence	RI
L & F Plumbing LLC	Cranston	RI
Laframboise Carpentry	East Providence	RI
Lain Electric Co	Providence	RI
Lambert DBM LLC	Middletown	RI
Lanagan Plumbing and Heating	Woonsocket	RI
Lance Plumbing and Heating	Scituate	RI
Landry and Martin Oil Co Inc.	Pawtucket	RI
Lang Plumbing and Heating	North Scituate	RI
Larry Giorgi Plumbing and Heating Inc.	North Providence	RI
Lauders Energy Solutions Inc.	Tiverton	RI
Lawrence Air Systems Inc.	Barrington	RI
Ledoux Electric	North Kingstown	RI
Lefevre Electric Inc.	Cranston	RI
Leidos Engineering	Newport	RI
Leonard Hines	Providence	RI
Leveille Electric	Smithfield	RI
Liberty Plumbing and Heating	Jamestown	RI
Lighthouse Contracting Services	Johnston	RI
Lighthouse Propane Inc.	East Greenwich	RI
Lincoln Energy Mechanical Services Inc.	West Warwick	RI
Louie Electric & Son	Providence	RI
Louis Avarista Jr Plumbing	Cranston	RI
Lubera Plumbing LLC	Coventry	RI
Luso Plumbing and Heating Inc.	Cumberland	RI

M & G Correias Plumbing and Heating Supplies	East Providence	RI
M & M Electric	Richmond	RI
M & R Electric, LLC	Westerly	RI
M D'Andrea Electric LLC	Portsmouth	RI
M Deltufo Plumbing and Heating Inc.	East Greenwich	RI
M.J. Bouchard Heating and Air Conditioning	Greenville	RI
Madden Electric	Little Compton	RI
Mador Electric	Providence	RI
Magnetic Electric Inc.	Warwick	RI
Mags Heating and Air Conditioning	Warwick	RI
Malone Plumbing and Heating Inc.	Cranston	RI
Maloney Oil	Pawtucket	RI
Manfredo Electric	Warwick	RI
Manning Plumbing	Warwick	RI
Marcel Multi Services	Pawtucket	RI
Marco Desrochers Electric	North Providence	RI
Marinelli & Sons Electric	West Kingston	RI
Marisa Desautel	Providence	RI
Martel Plumbing and Heating	Lincoln	RI
Massed Electric Company	Warren	RI
Mastro Electric Supply Co Inc.	Providence	RI
Mastrocinque and Sons Plumbing and Heating LLC	Portsmouth	RI
Matthew Fournier	Lincoln	RI
Matts Mechanical	Greenville	RI
McBurney Electric, Inc.	Pawtucket	RI
McCormick Electrical	North Kingstown	RI
McDonough Electric LLC	West Warwick	RI
McKee Brothers Oil Corporation	Cumberland	RI
MD Heating and Air Conditioning	North Providence	RI
Menard Electric	Manville	RI
Metro Electric	Woonsocket	RI
MH Electric	Cranston	RI
Michael Bowry	Cranston	RI
Michael Freitas Plumbing and Mechanical	Pascoag	RI
Michael J. Brown	Portsmouth	RI
Michael Newbury	Tiverton	RI
Michael Tramontano Plumbing and Heating	Cranston	RI
Mike Simone Plumbing and Heating LLC	Cranston	RI
Miller Electric Corporation	West Warwick	RI
Miller Mechanical Inc.	Rumford	RI
MJF Plumbing and Heating	Bristol	RI
MJS Electrical	Lincoln	RI

MO Refrigeration	Warwick	RI
Modern Mechanical LLC	Woonsocket	RI
Modine Manufacturing Comp	West Kingston	RI
Morgan Electric	Warwick	RI
Morra Electric Inc.	Johnston	RI
MPG Mechanical LLC	Charlestown	RI
Mr. Rooter Plumbing	Warwick	RI
MTG Heating	Pawtucket	RI
Multi State Restoration Inc.	North Providence	RI
Mustrocinque and Sons Plumbing and Heating LLC	Newport	RI
Mutual Engineering Service Company	Warwick	RI
Nasons Heating Cooling Sheet Metal	Middletown	RI
National Refrigeration Inc.	Warwick	RI
NDS Plumbing and Heating	Pawtucket	RI
New England Insulation	Woonsocket	RI
New England Plumbing Heating and Air LLC	Greenville	RI
Newport Electric	Portsmouth	RI
Newport Plumbing and Heating Gas Company	Portsmouth	RI
Nexgen Mechanical Inc.	Cranston	RI
NGB Electric	Smithfield	RI
Nicholas Fizzano	Ashaway	RI
Nolin Electric Incorporated	Providence	RI
North Atlantic Heating Inc.	Coventry	RI
Northeast Contracting	Cumberland	RI
Northeast Electrical Distributors	Cumberland	RI
Northeast Energy	Lincoln	RI
Northeast Heating and Cooling	North Scituate	RI
Northern Energy Services Inc.	Providence	RI
Northern Power Electrical Services	North Scituate	RI
Nouel Contractor Services	Providence	RI
O.A. Pagnozzi and Sons Inc.	Smithfield	RI
Ocean State Electric	Johnston	RI
Oceanline Combustion Service Inc.	Pawtucket	RI
Old Tyme Electric, Inc.	Pawtucket	RI
O'Neil Electric Company	Warwick	RI
Optimal Energy	Providence	RI
P & D Plumbing	Providence	RI
P & S Electric Inc.	East Greenwich	RI
P Mandatini Inc.	Cranston	RI
Pal Electric	Exeter	RI
Parrella Electric	Providence	RI
Patrarca Plumbing and Heating	Warwick	RI

Patrick Bragg	Warwick	RI
Patriot Plumbing Inc.	Coventry	RI
Paul Del Bonis	Providence	RI
Paul Manfredo Electric	Warwick	RI
Paul Pinheiro	North Providence	RI
Paul Scotto Electrical	Portsmouth	RI
Payne & Son Electrical Services	Foster	RI
PC Construction	Cranston	RI
PECI	Portsmouth	RI
Pellegrino Plumbing and Heating	Westerly	RI
Pelletier and Son Plumbing and Heating Inc.	North Kingstown	RI
Pemlico Plumbing	Warwick	RI
Percivalle Electric Inc.	Warwick	RI
Perez Plumbing and Heating LLC	Cranston	RI
Peter Bibby	Providence	RI
Petes Plumbing Inc.	North Smithfield	RI
Petrarca Plumbing and Heating	Warwick	RI
Petro Heating and Air Conditioning Services	East Greenwich	RI
Petronelli Plumbing and Heating	Cranston	RI
Phil Paul Plumbing and Heating	North Smithfield	RI
Philips Precision Plumbing LLC	Greene	RI
Phillco Electric	Central Falls	RI
Phillip J Bolster Plumbing and Heating	Wakefield	RI
Phillips Plumbing and Mechanical Inc.	Cranston	RI
Phil's Heating and Air Conditioning	Westerly	RI
Pickles Plumbing and Heating LLC	Mapleville	RI
Pinnacle Plumbing and Heating	Greenville	RI
Pipe Fixer	Coventry	RI
Plumb Perfection	Johnston	RI
Plumber Pros Inc.	Coventry	RI
Plumbing and Heating Solutions LLC	East Greenwich	RI
Polar Air	Wakefield	RI
Polaris Plumbing and Heating Inc.	Johnston	RI
Portland Group	Providence	RI
Potvin Enterprises Inc.	Warwick	RI
Power Trip Electric Inc.	Hope	RI
Pratt Plumbing and Heating LLC	Harrisville	RI
Precision Power	Wyoming	RI
Preferred Heat Inc.	Providence	RI
Premair HVAC	Warwick	RI
Premier Heating and Cooling	Lincoln	RI
Prince Noah HVAC	Central Falls	RI

Priority Plumbing and Heating Inc.	Providence	RI
Prism Consulting Inc.	Providence	RI
Pro Plumbing of Rhode Island	West Warwick	RI
Professional Services	Lincoln	RI
Providence Electric Inc.	Chepachet	RI
Providence Mechanical Services LLC	Smithfield	RI
R & M Electric Inc.	Coventry	RI
R. Vento & Son Electric	Johnston	RI
R.B. Queern Company Inc.	Portsmouth	RI
R.E. Coogan Heating Inc.	Warwick	RI
R.E.M. Electric, Inc.	Jamestown	RI
R.W. Bruno Heating & Cooling	Lincoln	RI
Ralph Devivo Plumbing and Heating	North Smithfield	RI
Ralph E Geiselman Plumbing and Heating	Pawtucket	RI
Ralph Ferra Plumbing	North Smithfield	RI
Randy Pomeroy	Pascoag	RI
Ray Christopher	Foster	RI
Raymond J Reinsant Plumbing and Heating	Lincoln	RI
Raz Heating and Plumbing Services	Foster	RI
RB Homes	Johnston	RI
RC Plumbing and Heating	North Providence	RI
RCS Energy Services	Providence	RI
Reddy Piping Concepts Inc.	Cranston	RI
Regan Heating & Air Conditioning Inc.	Providence	RI
Reichert and Sons Fuel Oil Inc.	Chepachet	RI
Reinhold Plumbing and Heating Inc.	Johnston	RI
Reliable Plumbing and Mechanical Inc.	North Providence	RI
Reliant Electric	Cranston	RI
Renaissance Sheet Metal LLC	Cranston	RI
Renewable Plumbing Heating Solar and Air	East Providence	RI
Resendes Heating Service LLC	Coventry	RI
Resource Construction Inc.	Jamestown	RI
Restivos Heating and Air Conditioning	Johnston	RI
Rexel Energy Solutions (Munro Distributing)	Cranston	RI
Rhode Island Electrical Rooter and Plumbing	Providence	RI
Rhode Island HVAC	Pawtucket	RI
Rhode Island Insulation	Hope	RI
Rhode Island Interfaith Power and Light	North Kingstown	RI
Rhode Island Plumbing and Heating Inc.	Cumberland	RI
Rhody Electric	Warwick	RI
Rhody Plumbing	Smithfield	RI
RI Electric LLC	Providence	RI

Richard Dufresne	Mapleville	RI
Richard Gayer Electric	Bristol	RI
Richard Migliori	Newport	RI
Richard R Lavey	Warren	RI
Ridge Property LLC	Cumberland	RI
Right View Electric. Inc.	East Providence	RI
Rise Engineering	Cranston	RI
Ritacco Electric LLC	Westerly	RI
RMS Ruggieri and Sons Mechanical LLC	Richmond	RI
RN Electric	North Providence	RI
Robert Colaluca Plumbing	Johnston	RI
Robert Dionne Electrical Contractor	Providence	RI
Robert Rachiele Electrician	Coventry	RI
Robert Schnaible	Hope	RI
Roberts Electric	Pawtucket	RI
Rock House Construction LLC	Johnston	RI
Roger Adam Electrician	Manville	RI
Roland and Son Building and Remodeling	Saunderstown	RI
Roland M Belanger Plumbing and Heating	Pascoag	RI
Ron Manish	Scituate	RI
Ronald Lima	Rumford	RI
Ronald Stamp	Johnston	RI
Rooter Man Plumbing Heating Drains	Cumberland	RI
Rossi Electric Company	Cranston	RI
RSC Plumbing LLC	Exeter	RI
RSM Electric	Greenville	RI
RST Mechanical	North Kingstown	RI
Rumford Mechanical Systems LLC	Rumford	RI
Russ Lembo Electrician	Johnston	RI
Russell Barron Plumbing	Cranston	RI
Ryan Balme Electric	Chepachet	RI
Ryan Electric Construction	Warwick	RI
S & C Boilers	West Warwick	RI
S & P Machine	West Warwick	RI
S & S Electric	Chepachet	RI
S.B. Carbone Plumbing and Heating Company Inc.	Cranston	RI
Sakonnet Plumbing and Heating Inc.	Little Compton	RI
Sal Manzi and Son Plumbing and Heating Inc.	Cranston	RI
Sam Bliven Jr Plumbing & Heating Inc.	Westerly	RI
Sanford Electric	Bristol	RI
Santoro Oil Company Inc.	Providence	RI
Sargent Plumbing	North Kingstown	RI

Sasa Mechanical Contractors Inc.	Johnston	RI
Satti Construction	Lincoln	RI
Savard Oil Company Inc.	East Providence	RI
Schwegler and Sons Plumbing and Heating Inc.	North Smithfield	RI
Scott Gatta Electric	Johnston	RI
Seddon Electric	Rumford	RI
Seekonk Supply Inc.	Providence	RI
Seminole Development	Lincoln	RI
Sensible Heating and Air Conditioning LLC	Hope Valley	RI
Sergio Alves	Central Falls	RI
Shamrock Electric	Middletown	RI
Sheridan Electric Inc.	Warwick	RI
Siemens Industry	Cranston	RI
Sine Plumbing and Heating Company Inc.	East Providence	RI
Sizemore Plumbing and Heating	Johnston	RI
Small'S Plumbing Inc.	Woonsocket	RI
SMC Mechanical	East Providence	RI
Smithfield Plumbing & Heating Supply Company	Greenville	RI
Sosa & Son Heating Air Conditioning & Refrigeration	Woonsocket	RI
Sound Building Corporation	Portsmouth	RI
Sousa Electric	Warwick	RI
South County Community Action	North Kingstown	RI
South Shore Electrical Contractors	Wakefield	RI
Spencer's Plumbing	North Kingstown	RI
SPL Electrical Corporation	North Smithfield	RI
St Angelo Plumbing	Barrington	RI
Standish Heating and Air Conditioning	Coventry	RI
Startrak Studios Inc.	Warwick	RI
State of Rhode Island	Providence	RI
Statewide Insulation	North Smithfield	RI
Statewide Plumbing and Heating Co Inc.	Cranston	RI
Stedman & Kazounis Plumbing and Heating	Charlestown	RI
Stem Electrical	Warwick	RI
Stephen Andrea Fire & Electric, LLC	Coventry	RI
Stephen Larochelle	Cumberland	RI
Sterling Mechanical Services	Greene	RI
Steve Dupre Plumbing	Pawtucket	RI
Steven Dubois Inc.	Bradford	RI
Steven Maymon	Warwick	RI
Sturbridge Home Builders Inc.	Warwick	RI
Suburban Heating and Cooling	Tiverton	RI
Summit Electrical Contractors Inc.	Lincoln	RI

Sunrise Plumbing and Heating	Johnston	RI
Sunshine Fuels and Energy Services Inc.	Bristol	RI
Superior Comfort Inc.	Bristol	RI
Superior Electric	Providence	RI
Superior Insulation	Narragansett	RI
Superior Plumbing and Heating	Cranston	RI
Supply New England	Pawtucket	RI
Sure Fire Heating	West Greenwich	RI
Sustainable Energy Solutions	Providence	RI
SW & Sons Plumbing & Heating	Johnston	RI
Swap Inc.	Providence	RI
Sylvania Lighting Services	Johnston	RI
Sylvester Sheet Metal Inc.	West Warwick	RI
Symmes Maini & McKee Associates	Providence	RI
T & J Heating Air Conditioning and Plumbing Inc.	Bellingham	RI
T & T Plumbing and Heating Inc.	Hope Valley	RI
T Gomes Heating and Cooling	Providence	RI
T. Murphy Electric	Cranston	RI
T.A. Gardiner Plumbing & Heating Inc.	Bristol	RI
Tebano Electric	Bristol	RI
Tebo Electric Inc.	Woonsocket	RI
Temptec Mechanical	Providence	RI
TF Electric, LLC	East Greenwich	RI
The Farm Barlow Heating LLC	Warwick	RI
The Metalworks Corporation	Tiverton	RI
The Plumber Company LP	Cranston	RI
Thermal Energy Inc.	Cranston	RI
Therrien Mechanical Systems	Lincoln	RI
Thibault Plumbing and Heating Inc.	Cranston	RI
Thielsch Engineering	Cranston	RI
Thomas McGee Plumbing and Heating	North Smithfield	RI
TJ Billington & Son	Warwick	RI
TJ Homebuilders, Inc.	Exeter	RI
Todd Wakeman	West Greenwich	RI
Tom Peters Plumbing and Heating Inc.	Portsmouth	RI
Tom Whitaker	Newport	RI
Toms Plumbing LLC	Manville	RI
Toner Electric Co	Middletown	RI
Tops Electric Supply	Providence	RI
Total Comfort Heating and Cooling Inc.	Lincoln	RI
Total Construction Services Inc.	Providence	RI
Total Control HVAC LLC	Cranston	RI

Total Home Care	Warwick	RI
TR Electric Inc.	Ashaway	RI
Travers Plumbing and Heating Incorporated	Portsmouth	RI
Tri-Town Community Action	North Providence	RI
Truth Box Inc.	Providence	RI
Tuma Insulations	Warwick	RI
Tyfas and Co. Inc.	Warren	RI
UG Nasons Inc.	Middletown	RI
United Burner Services Inc.	West Warwick	RI
United Mechanical Inc.	Cranston	RI
V. Bevilacqua & Son, Inc.	Smithfield	RI
Valcourt Heating Inc.	Tiverton	RI
Valley Heating and Cooling Inc.	Hope Valley	RI
Valmer D Montoya Air Heating and Cooling Inc.	Central Falls	RI
Van's Electric Inc.	Bristol	RI
Vaughn Oil Company Inc.	Smithfield	RI
Venancio Brothers Plumbing and Heating	Middletown	RI
Vicmir & Sons Heating and Air Conditioning Controls	Riverside	RI
Victory Heating and Air Conditioning Company Inc.	Bellingham	RI
Viking Electric Inc.	Providence	RI
Vincent Heating & Air Inc.	Cranston	RI
Vintage Plumbing	Riverside	RI
Vivona Plumbing and Heating Inc.	Portsmouth	RI
W.E. Hill Plumbing and Heating Inc.	Bristol	RI
W.W. Grainger, Inc.	Warwick	RI
Wakefield Heating Service LLC	Wakefield	RI
Wakefield Plumbing LLC	Newport	RI
Walco Electric Company	Providence	RI
Waldo Plumbing and Heating LLC	Lincoln	RI
Walsh Electric	Bristol	RI
Warroom Document Solution	Providence	RI
Waterworks Plumbing and Services LLC	Johnston	RI
Wesco Oil & Propane Inc.	Esmond	RI
West Bay Community Action Partnership	Warwick	RI
West Bay Copy LLC	Kingston	RI
Wicked Watts LLC	Providence	RI
Wickford Appliance and Lighting Inc.	Pawtucket	RI
William Calia Electric	Johnston	RI
William Carceri	Cranston	RI
William J Riley Plumbing and Heating	Warwick	RI
William Merritt Plumbing and Heating LLC	North Kingstown	RI
William S Ferrara	East Providence	RI

WJM Property Consulting Inc.	West Warwick	RI
Woods Heating Service	East Providence	RI
Wordell Heating and Cooling LLC	Little Compton	RI
Wyman & Sons Electric Company Inc.	Warwick	RI
Zanella Plumbing and Heating Inc.	Westerly	RI
Zap's Electrical	North Scituate	RI
Zawadzki Plumbing and Heating Inc.	Warwick	RI
Zompa Plumbing and Heating	Barrington	RI
Blackhawk Engagement Solutions (Parago)	Lewisville	TX
Compressed Air Challenge	Alexandria	VA
Opower Inc.	Arlington	VA
Kelliher Samets Volk	Burlington	VT
Vermont Energy Investment Corporation	Burlington	VT
Evoworx Inc.	Seattle	WA
New Buildings Institute Inc.	White Salmon	WA
Illume Advising LLC	Verona	WI