The Narragansett Electric Company

d/b/a National Grid

INVESTIGATION AS TO THE PROPRIETY OF PROPOSED TARIFF CHANGES

Testimony and Schedules of:

Raymond J. Rosario, Jr.
Alfred Amaral III
Ryan M. Constable
John F. Isberg

Book 4 of 17

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nationalgrid

Testimony of
Rosario, Jr, Amaral III, Constable

JOINT PRE-FILED DIRECT TESTIMONY

OF

RAYMOND J. ROSARIO, JR.,

ALFRED AMARAL III,

AND

RYAN M. CONSTABLE

Dated: November 27, 2017

SUMMARY

Raymond J. Rosario, Jr. is Director, Overhead and Underground Lines, Rhode Island for the Company and is responsible for overseeing the maintenance and construction work for all overhead and underground lines infrastructure, including distribution and sub- transmission facilities in Rhode Island. Alfred Amaral III is Vice President, Customer Meter Services, New England for the Service Company and is responsible for overseeing the Emergency Response and Meter Services activities for Rhode Island and Massachusetts. Ryan M. Constable is Acting Director of Distribution Planning and Asset Management – New England for the Service Company, and is responsible for the planning and oversight of projects and programs that ensure a safe and reliable electric distribution system. In this joint testimony, these witnesses support the Company's proposal to add new electrical and gas worker positions over and above the Company's current staffing complement in the Rate Year and during Data Year 1 and Data Year 2 to address system workforce requirements.

Mr. Rosario also discusses the Company's proposal to increase Test Year expense for additional crane operator licenses for 30 employees pursuant to Occupational Safety and Health Administration (OSHA) regulations, and the lease of three trouble trucks to improve truck availability and response times in Rhode Island.

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I. Introduction

Q. Mr. Rosario, please state your full name and business address.

A. My name is Raymond J. Rosario, Jr. My business address is 280 Melrose Street, Providence, Rhode Island 02907.

Q. By whom are you employed and in what capacity?

A. I am employed by The Narragansett Electric Company d/b/a National Grid (the Company) as Director, Overhead and Underground Lines, Rhode Island.

Q. What are your principal responsibilities in that position?

A. My core responsibility is to provide oversight and supervision for the maintenance and construction work conducted by the Company for all overhead and underground lines infrastructure, including distribution and sub- transmission facilities in Rhode Island.

Q. Please describe your educational background and professional experience.

A. In 1985, I graduated from New England Institute of Technology with an Associate of Science degree. I also have a Massachusetts Master Electrician License, a Massachusetts Journeyman Electrician License, and a Massachusetts Hoisting Engineer License. Prior to my career in the utility business, I served in the United States Navy as a construction electrician from 1980 to 2005. In 2005, I retired as a Master Chief Petty Officer (E-9). In 1996, I started my utility career with Montaup Electric Corporation in Somerset, Massachusetts as a First Class Electrician. In 1994, I progressed to First Class

Lineman with Blackstone Valley Electric Company, which was later acquired by Eastern Utilities Associates. In 2000, Eastern Utilities Associates was acquired by New England Electric System. I continued my career with New England Electric System through its subsequent acquisition by National Grid USA (National Grid) and held the positions of Protection Relay Technician beginning in 2000 and Line Supervisor beginning in 2004 in Brockton, Massachusetts.

In 2008, I accepted a Lead Supervisor position in Work Coordination covering the New England South region. In 2010, I was promoted to Operations Manager Rhode Island Coastal. Since 2010, I have held several managerial positions, including Manager of Work Coordination in 2011 and Manager of Electric Customer Meter Services in Massachusetts from 2014 to 2016. In September 2016, I was promoted to my current position, Director Overhead and Underground Lines, Rhode Island.

Q. Have you previously testified before the Rhode Island Public Utilities Commission (PUC) or any other regulatory commissions?

A. No, I have not.

Q. Mr. Amaral, please state your name and business address.

A. My name is Alfred Amaral III. My business address is 280 Melrose Street, Providence, Rhode Island 02907.

Q. By whom are you employed and in what capacity?

A. I am employed by National Grid USA Service Company, Inc. (Service Company), a subsidiary of National Grid as Vice President, Customer Meter Services, New England for the Company's electric and gas distribution businesses. The Service Company provides administrative, corporate, and management services to the direct and indirect subsidiary companies of National Grid.

Q. What are your principal responsibilities in that position?

A. My principal responsibility is to provide oversight and supervision for the Emergency Response and Meter Services activities conducted by the Company in Rhode Island and Massachusetts.

Q. Please describe your educational background and professional experience.

A. I graduated from Merrimack College with a Bachelor of Science degree in Civil Engineering. In addition, I have a Master of Business Administration degree from Northeastern University.

In 1984, I started my utility career as a Design Engineer with the former Boston Gas Company. Since that time, I have held various operational positions at National Grid and its former legacy companies. In April 2016, I was selected for the position of Acting Vice President of Customer Meter Services, New England, and subsequently was promoted to Vice President of Customer Meter Services, New England in July 2017.

Q. Have you previously testified before the PUC or any other regulatory commissions?

A. Yes. I have testified before the PUC in relation to the Company's Gas Infrastructure, Safety, and Reliability Plan for Fiscal Years 2015, 2016, and 2017 in Docket Nos. 4474, 4540, and 4590, respectively.

Q. Mr. Constable, please state your name and business address.

A. My name is Ryan M. Constable. My business address is 40 Sylvan Road, Waltham, Massachusetts 02451.

Q. By whom are you employed and in what capacity?

A. I am employed by the Service Company as Acting Director of Distribution Planning and Asset Management – New England.

Q. What are your principal responsibilities in that position?

A. My responsibilities include the planning and oversight of projects and programs that ensure a safe and reliable electric distribution system.

Q. Please describe your educational background and professional experience.

A. In 1993, I earned a Bachelor of Science in Electric Power Engineering from Rensselaer Polytechnic Institute in Troy, New York. In 2000, I earned a Certificate of Industrial Management and Power Engineering from Worcester Polytechnic Institute in Worcester, Massachusetts. I am a Registered Professional Engineer in Massachusetts. I have

worked at National Grid from 1994 to 2000 and 2010 to the present. I have held various positions of increasing responsibility in the area of Distribution Planning. From 1994 to 1998, I was a Project Engineer responsible for the design and maintenance of the electric infrastructure, serving commercial and residential customers in southeastern Massachusetts. From 1998 to 2000, I was a Planning Engineer conducting long-range electric system studies. From 2010 to 2011, I was a Principal Engineer in the Utility of the Future department developing the Worcester Smart Energy Solutions Pilot. In 2011, I became the Manager of Distribution Planning and Asset Management – New England, directing a ten-person team to conduct annual planning activities, perform long-range planning studies, and develop regulatory filings. In 2017, I became the Acting Director of the Distribution Planning and Asset Management department. From 2000 to 2010, I worked for three independent transmission development companies, TransEnergie U.S., Cross Sound Cable Company, and Brookfield Renewable Power, Inc.

Q. Have you previously testified before the PUC or any other regulatory commissions?

A. Yes. I have testified regarding the Company's Electric Infrastructure, Safety, and Reliability Plan filings for Fiscal Years 2017 and 2018 in Docket Nos. 4592 and 4682, respectively, and System Reliability Procurement Plan filings for 2016 and 2017 in Docket Nos. 4581 and 4655, respectively.

Q. Would you please explain the naming conventions that you will be using in your testimony and associated schedules to identify the various entities involved in this proceeding?

A. This proceeding is a ratemaking proceeding for the electric and gas distribution operations of The Narragansett Electric Company, which constitute the regulated operations that National Grid conducts in Rhode Island. In this case, we will refer to the regulated entity as the "Company," where the reference is to both electric and gas distribution operations on a collective basis. Where there is a need to refer to the "stand-alone" or individual electric or gas operations of The Narragansett Electric Company, we will use the terms "Narragansett Electric" or "Narragansett Gas," respectively, as appropriate. Where we refer to "National Grid USA," we will use the term "National Grid;" where we refer to "National Grid plc," we will use that specific term.

Q. Are you sponsoring any schedules as part of your testimony?

A. Yes, we are sponsoring the following schedules:

- Schedule OPEX-1: Retirement Trend for the Company's Utility Workers.
- Schedule OPEX-2: Positions to Meet Increased Gas O&M Workload.

II. Purpose of Testimony

Q. What is the purpose of your joint testimony?

A. The purpose of this testimony is to support the Company's proposal to add new electrical and gas worker positions over and above the Company's current staffing complement in

the twelve-month period ending August 31, 2019 (the Rate Year), and during the two subsequent twelve-month periods ending August 31, 2020 (Data Year 1) and August 31, 2021 (Data Year 2) (Data Year 1 and Data Year 2 are collectively referred to as the Data Years), to address system workforce requirements. The costs of the new electrical and gas worker positions are not fully reflected in the period July 1, 2016 through June 30, 2017 (the Test Year). In addition, our testimony discusses the Company's proposal to increase Test Year costs for additional crane operator licenses for 30 employees pursuant to OSHA regulations, and the lease of three trouble trucks to improve truck availability and response times in Rhode Island.

As we explain in this testimony, the addition of electric and gas utility workers is critical to support existing and future workloads in Rhode Island in the areas of electric operations, gas maintenance and construction, gas-related customer metering services, and gas safety and compliance programs. Because the annual expense associated with the addition of these employees represents a known and measureable change from the level of expense experienced in the Test Year, the Company is requesting to include these costs in the Company's cost of service for utility operations.

Q. Please summarize the Company's proposal for recovering the cost of meeting its workforce requirements for electric and gas operations.

A. In this case, the Company is proposing to add full-time equivalent (FTE) employees above current staffing levels in certain areas within the electric and gas operations units.

With respect to Electric Operations, the Company plans to add 39 direct, fulltime employees to meet the Company's electric workforce requirements (36 union employees and 3 management employees). Of this total, 32 fulltime employees will be added during the Rate Year (29 union employees and 3 management employees); two fulltime union employees will be added in Data Year 1; and five fulltime union positions will be added in Data Year 2. In addition, the Company plans to add 29 fulltime employees to support the increased number of complex distributed generation (DG) interconnection applications (5 union employees and 24 management employees), with 19 of those employees added during the Rate Year (5 union employees and 15 management employees).

With respect to Gas Operations, the Company is planning to add a total of 48 direct, fulltime employees (42 union employees and 6 management employees) over the next three fiscal years ending March 31, 2019 (Fiscal Year 2019), March 31, 2020 (Fiscal Year 2020), and March 31, 2021 (Fiscal Year 2021). These new additions are planned in the following breakdown: 36 fulltime employees in the Rate Year (30 union and 6 management employees); 7 fulltime union employees in Data Year 1; and 5 fulltime union employees in Data Year 2. The Company also plans to add a total of 23 FTE employees (2 union employees and 21 management employees) to work on Gas Maintenance and Construction projects through the Service Company in the Rate Year. For Gas Operations, these new, incremental employees will take positions in engineering, construction, project management, resource planning, instrumentation and regulation,

damage prevention, corrosion control, estimating, contract administration, operations support (*i.e.* mapping and permitting), Customer Meter Services, and pipeline safety and compliance.

Q. Why should the PUC allow the post-Test Year adjustment for annual expense associated with incremental employees for the electric and gas operations?

A. As it stands, the Company is facing a very substantial challenge in maintaining an adequate population of qualified workers in its electric and gas utility operations. There are three main reasons for this challenge.

First, the Company's workforce is aging and retiring. New, fully qualified employees are not available to replace those workers. Gas and electric utility work requires unique special technical expertise, and utility workers cannot typically be hired and brought onto the system as fully qualified workers with that expertise. Although the Company may be able to attract a limited number of fully qualified workers from other utility companies, the Company must rely primarily on new, *untrained* workers hired by the Company. The Company must provide the training and experience necessary over time to enable these new trainees to become fully qualified for utility work. The qualification process for electric and gas utility workers is a multi-year process (*i.e.*, a minimum of one to four years for rated utility workers), with no shortcuts.

At the same time, across the utility industry, a disproportionately large percentage of

utility workforces are reaching retirement age. This is because, at the operating level, large numbers of utility personnel were hired in the 1970s and 1980s as utility systems were built out to address suburban population growth. These employees are now reaching retirement age. The Company's experience is consistent with industry trends, and the Company's operating workforce currently encompasses a disproportionate ratio of employees over the age of 55. These employees will retire as they reach the age of 60-65. There is no avoiding this consequence. If the Company does not take steps to hire, train, and qualify workforces to replace employees as they retire, it will simply not be possible to keep up with system maintenance and construction activities to serve customers. This would be a disastrous situation for the Company and its customers. It is not possible to shortcut the training and qualification process; yet, it is not possible to scale back on the work necessary to build, maintain, and reinforce the system. Therefore, the Company must take steps to assure adequate workforce levels, taking into consideration the competing dynamics of looming employee retirements and multi-year training processes for electric and gas utility workers.

The solution to this challenge is a ramp-up in the number of new employees brought onto the system to be trained and qualified to replace retiring workers. There are no two ways about it; prudent utility action requires that the Company take steps to maintain an adequate workforce to meet its operating requirements. The Company is taking this step in this case.

Q. You mentioned that there are two reasons that the Company is facing a challenge in relation to workforce requirements. What is the second reason that additional utility workers are needed?

A. For Gas Operations, the Company is experiencing an increase in the workload related to its operating and maintenance (O&M) and capital work, as well as gas-safety and compliance programs. O&M work is performed to provide customer support, respond to emergencies, perform safety inspections and other compliance activities, restore service, and maintain the life of distribution assets. The Company has a significant maintenance program to ensure that system assets are utilized to their fullest potential life expectancy. As gas facilities age, maintenance costs increase. These costs include more frequent inspections and testing, increased volume of repairs, and more complex repair work. These expenditures are required to prevent failure and maintain the life of the assets until replacement occurs. The Company is also experiencing an increase in workload associated with its O&M programs in the areas of corrosion control and instrumentation and regulation. Moreover, the pressing need to hire and train new gas workers is exacerbated by the fact that gas distribution companies throughout New England, and beyond, are experiencing the same pressures in relation to increasing gas-safety and compliance requirements, causing significant competition for available resources. Therefore, the Company must be in a position to add employees and provide the training and experience necessary to maintain an adequate, qualified workforce for gas operations.

Q. What is the third factor driving the need for additional utility workers?

A. On the electric system, the Company has been experiencing significant growth of DG applications year over year. These applications move through an interconnection process in accordance with the Standards for Connecting Distributed Generation, RIPUC No. 2163, which obligates the Company to complete certain stages of the process within specified timeframes. There is growing pressure to progress these applications and resulting projects through the interconnection process as expeditiously as possible. The "front end" of the process generally involves feasibility reviews, engineering studies, and service agreements and the "back end" of the process generally involves completing system modifications (both at a distribution and often substation level) to enable these projects to interconnect to the utility system without adversely affecting safety, reliability, and power quality.

The Company expects that many of the applications that have already completed the front end of the process will now progress through the back end of the process. Thus, the Company must not only augment customer-facing staff to support the front end of the process, but also augment the field workers necessary to support the system modifications that are required as a result of the engineering studies performed for the DG projects. Additionally, recent amendments to the Distributed Generation Interconnection Standards, R.I. Gen. Laws Chapter 39-26.3 (Amended DG Interconnection Statute) have introduced aggressive timeframes for the completion of

system modifications, thereby intensifying the need to ensure that the Company is properly resourced to meet the growing workload and expectations from the DG community.

Q. Why is the Company requesting specific ratemaking treatment for the expenses associated with adding new workforces?

A. Workforce staffing is the central concern of electric and gas utilities because there is no way to build, construct, and maintain the system without capable and qualified human resources. The Company must remain focused on the critical goal of assuring adequate, trained workforces to meet its public service obligation. However, costs are inevitably created as a result of this focus. Customers wholly and substantially benefit from the delivery of safe and reliable electric and natural gas distribution service. Without recovery of these costs, the addition of incremental workforces to achieve those benefits is directly detrimental to the financial integrity of the Company's operations. As a result, it is reasonable (and necessary) for the Company to request that the PUC consider addressing the cost of these incremental resources in this case.

Q. How is your testimony organized?

A. Our joint testimony is organized into the following sections: Sections I and II are the introductory sections of this testimony. Section III discusses the Company's existing staffing resources and the training regimens applicable to Electric and Gas Operations. Section IV discusses the specific retirement trends that the Company is experiencing in

its Electric and Gas Operations. Section V discusses the drivers of increasing workload for Gas Operations. Section VI discusses the drivers of increasing workload for the proceeding of complex DG interconnections. Section VII discusses other incremental O&M expense associated with electric operations due to OSHA training requirements. Section VIII is the conclusion.

III. Staffing and Training

1. Current Staffing Levels

Q. What is the organization of staffing for National Grid's Rhode Island operations?

A. To provide safe and reliable service to electric and gas customers in Rhode Island, the Company relies on a complement of Service Company employees and "direct" employees. National Grid had a complement of 15,883 employees across its U.S. operations at the end of the Test Year. Of this total, 6,051 employees provided services in the Test Year to National Grid's operating affiliates through the Service Company. Service Company employees provide support to the various operating companies within National Grid's service territory in the United States on a shared-service basis. For example, employees with job functions within Legal, Finance, and Regulation and Pricing are Service Company employees. Of the total costs allocated by the Service Company, the Company's operations in Rhode Island constitute 10.12 percent of the total allocation, or 6.42 percent for the Electric operations and 3.70 percent for the gas operations.

Q. How many direct employees are dedicated to Rhode Island operations?

A. Direct employees are employees who have a job function dedicated to operations in Rhode Island. For example, an overhead line worker or gas company maintenance and construction worker in Rhode Island is a direct employee. At June 30, 2017, the Company had a complement of 734 employees, who work directly for the Rhode Island jurisdiction, including 35 vacancies. Of this total, 392 employees (and 26 vacancies) are associated with the Electric operations and 342 employees (and 9 vacancies) are associated with the Gas operations.

For Gas Operations, there are two main functions, the first being Maintenance and Construction, which includes emergency response; mandated system maintenance activities; and capital construction consisting of replacement of existing facilities and installation of growth main and services. The second primary function is Customer Meter Services. includes emergency response; meter exchanges; on/off orders; meter reading; new customer meter sets; capital fitting work; collections; meter and bill investigations, and gas-pressure investigations.

Electric Operations consists of overhead line employees, underground employees, substation maintenance employees, protection and telecommunications operations employees, distribution design employees and Customer Meter Services. Customer Meter Services for Electric operations includes meter exchanges; on/off orders; meter

reading; new customer meter sets; DG metering; collections; meter and bill investigations; and complex metering.

Of the 734 direct employees in Rhode Island, 674 employees are serving in union positions (plus 33 vacancies) and 60 employees are serving non-union positions (plus 2 vacancies).

Q. Which functional areas are responsible for complex DG interconnection work and require supplementary fulltime positions?

A. The following functional areas are responsible for DG interconnection work: (1) distribution design; (2) distribution planning and asset management; (3) substation engineering; (4) protection and telecommunications engineering; (5) maps and records; (6) and customer energy integration.

2. <u>Training</u>

Q. What is the Company's general approach to training its electric and gas workers to perform utility operations?

A. Electric and gas utility workers are trained and qualified through a "progression training" process. Progression training occurs over a multi-year timeline with a training horizon of two to four years for full qualification and training. For gas workers, the training process can take up to 12 to 18 months depending on the function. For electric workers, the training process can take up to four years to become a fully rated worker and in some

cases, it takes longer. Since the training horizon for an underground or overhead electric line worker requires a minimum of two to four years, it is incumbent upon the Company to proactively recruit and train new field crews at a time when it will be required to replace a large number of retiring workers.

Q. Why is employee training of such significance in relation to the Company's overall organization and annual work plan?

A. The Company's most valuable resource is its employees. The Company's workforce is a critical asset in reducing, eliminating, and managing operational risk. Among other business objectives, the individual and collective efforts of employees ultimately have a huge impact on controlling costs and improving the customer experience. The Company's training efforts are designed to provide employees with the technical expertise and technical knowledge needed for their specific job function. The fundamental purpose of training is to reduce risk associated with human error, improve safety and reliability, increase employee engagement, and attract and retain qualified personnel.

Therefore, the Company must place considerable focus on work training and qualification as critical components to improving electric reliability and gas pipeline safety, among other important operating objectives.

Q. What factors in the current operating environment are driving the training requirements for utility workers?

A. There are external and internal factors driving the relatively prolonged training requirements for utility workers. In terms of external factors, training requirements are becoming more rigorous as a result of federal and state directives, industry incidents, regulatory oversight and engagement, and customer expectations. Internally, the need for a ramp-up in the training of new employees is arising as a result of expanded infrastructure replacement programs and increasing O&M workload requirements, which are demanding increased staffing levels and the associated training of new employees. Other important factors are employee demographics and changing operating standards, tools, and technology. Data collection and tracking of information to assess risks is also becoming a critical part of training, given the increasing regulatory requirements set by state and federal regulators. The Company's Gas operations are also affected by emerging, bulk retirements of gas utility workers.

Q. Please describe the training requirements for electrical workers.

A. Electric Utility Workers are trained in accordance with OSHA regulations and other applicable standards. According to OSHA regulations, all employees working on or near energized lines and equipment must meet specific requirements to perform related activities. As defined by 29 C.F.R. 1910.269, a qualified electrical worker is a "person who through training and experience with electrical circuits and equipment has demonstrated the necessary knowledge and skills to perform work on or near energized

facilities at voltage levels exceeding 600 volts. Qualified Electrical Workers shall be able to: (1) recognize exposed energized parts; (2) determine the nominal voltage of exposed energized parts; (3) know the minimum approach distances for the voltages exposed; (4) know the precautionary techniques and personal protective equipment required when working on or near exposed energized parts of electric equipment; and (5) understand and be able to recognize all other hazards and potential hazards of working on and around high voltage equipment whether or not energized parts are exposed." To ensure compliance with OSHA's regulations, the Company has developed a comprehensive training program that focuses on safety and utility best practices. Each stage of classroom and on- the-job training allows the apprentice to perform additional technical duties. To become a fully qualified electrical worker, the apprentice must participate in this process for up to 48 months. To become a Customer Meter Services technician, the training period is at least 36 months.

Q. What types of work activities do new electric utility workers perform as they train for full qualification?

A. For Electric Utility Workers, over the two to four year training cycle, trainees are primarily engaged in O&M activities that need to be performed to inspect, repair and maintain the electric distribution system. To ensure compliance with OSHA 29 C.F.R.1910.269, employees are engaged in many activities during the apprentice training cycle for electrical workers. Once electrical workers are fully trained, the Company is can assign them to various job classifications and job positions.

Under close supervision, trainees perform basic aspects of the job and learn how to work with energized distribution and transmission high voltage lines. Trainees assist journeyman lineman and electrical workers with construction, maintenance and repairs on the electrical overhead, underground and substation distribution and transmission systems. Trainees also assist with operating, inspecting and maintaining aerial devices, digger, derricks, excavation equipment, transformers, regulators, switching devices and other electric line related equipment. In addition, they learn and observe proper safety, switching, tagging, clearance and control procedures and guidelines. Progression training, including defined tasks and testing, is outlined in each of the disciplines. This training is conducted at our training facilities and lead by qualified individuals with extensive experience in the electric utility industry.

Lastly, on the job training is a key part to our training program and employees are expected to engage in daily work practices. Tasks taught and practiced while shadowing on the job include but are not limited to, pole setting, installing wire, transformer installation and operating devices in our electrical system. An apprentice employee will start with no voltage present and eventually work on transmission systems (115kV) when fully qualified as an electrical worker.

For Electric - *Customer Meter Services*, the work activities performed by a Customer Meter Services technician is established to align with the training program, commencing with basic electric fundamentals and increasing in complexity until the technician has

exhibited proficiency in all aspects of the job commensurate with their qualifications and training expectations. The training for Customer Meter Services Representatives consists of cycles of formal classroom training, followed by field enforcement "on the job" training, all of which have specific evaluation expectations in order to progress. In the Customer Meter Services department, the first step in the progression is known as a Meter Services Representative. This training involves one week of basic electricity then exposure to field operations followed by one week of utility- and customer-focused classroom training such as understanding the Company core values, customer expectations, customer conflict management, safety (personal and driver), overview of electric distribution, meter reading, meter education, collections, data integrity, work management, meter cut outs and lockouts, meter voltage and wiring, and revenue protection followed by knowledge testing. This is followed by "on the job" training, reinforcing what was learned in the classroom – mainly as an understudy with a qualified Meter Worker, with oversight from a Working Leader and Supervisor.

This is next followed by one week of formal classroom Meter Worker C training, focusing on meter reading, tools and equipment utilization, voltage testing, single phase versus three-phase meters, meter installation, loop checks, meter investigations (*i.e.* stopped meters), programming meters, emergency response followed by knowledge testing. This training is followed by field based "on the job" reinforcement as an understudy with a qualified Meter Worker, with oversight from a Working Leader and Supervisor. Meter Worker B and Meter Worker A training focuses on the more complex

metering configurations followed by knowledge testing. The field based "on the job" reinforcement would require 18 to 30 months of experience.

Q. Please describe the training requirements for gas workers.

A. To be qualified to work on the gas distribution system, Gas Customer Meter Services and Maintenance and Construction technicians are mandated to undergo a comprehensive Operator Qualification Program (OQ). OQ is a regulation of the Office of Pipeline Safety of the U.S. Department of Transportation (USDOT). USDOT's OQ regulation 49 CFR 192 subpart N, requires operators to develop and maintain a qualification program for individuals performing covered tasks. Code of Federal Regulations under Subpart N in 49 CFR Part 192 and Subpart G in 49 CFR Part 195, requires pipeline operators to document that certain employees have been adequately trained to recognize and react to abnormal operating conditions that may occur while performing specific tasks. The intent of the OQ rule is to minimize human error by establishing a verifiable and qualified workforce. The OQ Program includes numerous covered tasks. Each covered task requires a knowledge and/or skill evaluation. The OQ requirements are embedded in a more comprehensive training program that consists of OQs, practical training, hands-on training, personal and public safety, appliance specific training, and field evaluation.

Q. What types of work activities are performed by new gas utility workers as they train for full qualification?

A. The work activities performed by a *Gas Customer Meter Services* technician is established to align with the training program, commencing with basic gas fundamentals and increasing in complexity until the technician has exhibited proficiency in all aspects of the job commensurate with their qualifications and training expectations. The type of work activities performed as a newer Gas Customer Meter Services technician consist of cycles of formal classroom training, followed by field enforcement "on the job" training, all of which have specific evaluation expectations in order to progress. In the Customer Meter Services department, the first step in the progression is known as a Meter Service Representative. Three weeks of utility and customer focused classroom training such as understanding the Company core values, customer expectations, customer conflict management, environmental (*e.g.*, hazardous materials, asbestos, mercury, lead), Dig Safe, corrosion, work methods, compliance, safety (personal and driver), understanding of the history and properties of natural gas, process safety, gas meter reading, billing, gas pipeline knowledge, and OQ training and testing. This is followed by four to six weeks (minimum) of "on the job" training, reinforcing what was learned in the classroom – mainly as an understudy with a qualified Meter Service Technician, with oversight from a Working Leader and Supervisor.

This is followed by two more weeks of formal classroom training, focusing on meter and regulator design, ignition systems, pipe sizing, unsafe condition recognition, leak

investigation, gas reading tools, appliances, emergencies, natural disasters, and OQ training and testing. This training is followed by field based "on the job" reinforcement for a 10-12 week period (minimum) working both hands on and as an understudy with a qualified Meter Service Technician, with oversight from a Working Leader and Supervisor. Upon successful completion of above training, Meter Service Representatives would then undergo a classroom review and be required to pass the remainder of their OQ tests to be considered a "fully qualified" Meter Service Representative, after which time Meter Service Representatives would conduct field based work, both on their own and with other more qualified technicians to embed their technical and operations knowledge of the job (10-12 weeks minimum).

The next step in the Customer Meter Services progression is the Meter Service Technician. To qualify for this level, it requires two weeks of classroom training consisting of cast iron encroachment, damage prevention, appliances and carbon monoxide, gas pressures, house pressure testing, code review, gas leaks, and OQ testing. This training is again followed by five months (minimum) of "on the job" training. The final phase of Meter Service Technician training is two weeks of classroom training on heating and ignition systems, regulators, appliance and regulator venting, code review, and OQ testing. Once all of these elements are satisfied, the technician is considered "fully qualified."

Lastly, the Company must address the changing needs and expectations of customers, regulators, and other stakeholders by transforming the way it conducts its gas and electric businesses. On the gas side, National Grid's multi-year, enterprise wide Gas Business Enablement Program is a unique, transformative initiative that will result in a step-change in safety, reliability, and efficiency providing direct and tangible benefits to customers. The Gas Business Enablement Program will fundamentally change the way the gas business works – from internal cross-functional department coordination to external interactions – to improve the Company's overall efficiency and service for customers. On the electric side, National Grid has developed the Power Sector Transformation "Vision and Implementation" Plan to create a more efficient energy delivery system that meets the evolving needs of customers and nurtures a vibrant, clean, and participatory energy landscape.

Q. Why doesn't the Company hire outside contractors to assist in maintaining reliable electric and gas service rather than increasing staffing?

A. For both Electric and Gas Operations, the Company needs to have an adequate complement of trained and qualified utility workers dedicated to its operations. External contractors are a valuable resource, particularly in relation to covering work needs while permanent, qualified utility workers are in training. However, it remains necessary for the Company to maintain a stable, sufficiently trained, and qualified local workforce that has direct knowledge of, and experience with, the Company's system. This in-house capability is critical to maintaining the safety and reliability of service to customers.

IV. Retirement Trends

Q. What are the challenges that National Grid is experiencing with respect its workforce?

A. National Grid is facing unprecedented change in all facets of its business. Regulatory dynamics, growth opportunities, technological advancements, and shifting customer expectations are each influencing workforce requirements. In addition, retirement rates are increasing and workforce demographics are changing. Many of the positions held by retiring employees require substantial amounts of training and experience to be performed effectively. Training new utility workers is critical to ensure that system operations are maintained by local workers familiar with the local system requirement and to limit the need to hire outside contractors to supplement the existing workforce. To avoid a potentially significant disruption that could result from a wave of retirements with inadequate backfill capacity, it is necessary for the Company to take action to plan for these upcoming retirements. It is incumbent upon the Company to proactively recruit and train new utility crews at a time when it will be required to replace a large number of retiring workers.

Q. Why are pending employee retirements such a problem for the Company at this time, as opposed to past years?

A. The crux of the problem is that, as compared to the past, a large proportion of the Company's Rhode Island workforce is older and approaching retirement in the next few years. Ten years ago, the larger proportion of the Company's employee population was

on the mid-range of the age spectrum, and the proportion of employees reaching retirement age was much smaller. There are less concerns with workforce adequacy where employee retirements in any given year or sequence of years are relatively low in comparison to the qualified employee base. When retirement levels are relatively low, business disruption is low because the Company can absorb the workload requirements using its existing workforce combined with routine, cyclical hiring, and training procedures.

However, when employee retirements are relatively numerous in comparison to the workforce resources on hand, the Company's routine hiring cycles are not sufficient to maintain adequate workforce levels, and there is a strong potential for the Company to be impaired in relation to performing work that needs to be done to maintain the safety and reliability of the system. Schedule OPEX-1 depicts the trend of the aging utility workforce that both the Company and the broader utility industry are experiencing. More specifically, Schedule OPEX-1 shows employee age ranges in five-year increments from the range of 25+ years of age to over age 69, representing the distribution of employees by age group. Within each five-year range, the colored bars show the number of employees in the age group by years 2007 through 2017, and then projected for 2022. When depicted in this manner, it is possible to see how the distribution of employees across five-year age ranges has shifted in the past 11 years, or from 2007 through 2017. In 2007, 38 percent of the Company's total employee population fell within the age ranges of 40-49 years of age. In 2017, this percentage is 23 percent. At the same time,

the percent of the Company's employee population within the age ranges of 55 or older has increased from 25 percent to 29 percent.

The solid red and blue lines show this shift in proportion of the employee base, depicting the large reduction in the 40-49 age groups from the level in 2007 to the level in 2017, showing a massive shift to higher age group and employee retirements. In particular, the green column, projecting employees in each group in the 2022 time frame, is increasing in the highest retirement risk age group of 60+, indicating a need to begin hiring, training, and transferring knowledge in preparation for bulk retirements in that phase.

Q. Which functional areas present the greatest workforce risks in Rhode Island?

A. Based on five-year retirement projections, the functional areas that represent the greatest workforce risks for Electric Operations are: (1) maintenance and construction, including electric overhead and underground workers; (2) protection and telecommunications operations, including substation maintenance workers and protection and telecommunications workers; and (3) Customer Meter Services (as a result of retirements and employee exits for other reasons).

Based on five-year retirement projections, the functional areas that represent the greatest workforce risks for Gas Operations are: (1) maintenance and construction (due to retirements); and (2) Customer Meter Services (due to retirements and employee exits).

Q. How did the Company determine the number of fulltime employees needed in the Rate Year?

A. Recognizing that bulk employee retirements are emerging due to the age and composition of the Company's workforce, the Company has developed an analytical tool to predict, prioritize, and mitigate workforce capacity and capability risks to its core business. This modeling enabled the Company to forecast retirement rates over the next five years. The data shows that the projected retirements will occur at a level greater than what the Company has historically experienced with respect to its staffing levels. These retirement trends create knowledge transfer and workforce adequacy risks, given the prolonged training cycle. Consequently, incremental hiring plans are critical for the Company to maintain the adequacy of workforce resources. These plans are also critical for the safe and reliable operation of the Company's gas distribution system.

Q. What are the retirements expected for Electric and Gas Operations over the next five years?

A. For Electric Operations, retirements due to employee age are projected as follows: (1) a total of 16 electrical overhead workers, representing 10 percent of the workforce in this area; (2) a total of 4 electric underground workers, representing 12 percent of the workforce in this area; (3) a total of 4 electric substation workers, representing 10 percent of the workforce in this area; (4) a total of 4 protection and telecommunications operations, representing 16 percent of the workforce for this area; and (5) a total of 13 Electric Customer Meter Services workers for retirements and employee exits,

representing 19 percent of the headcount for this area. Additionally, Electric Customer Meter Services is unique in that this department serves as a feeder pool for other departments and, therefore, routinely expects to experience relatively higher internal transfers (ten workers annually) into other departments. The loss of staffing in these areas represents a significant gap in the Company's workforce.

For Gas Operations, retirements due to employee age are projected as follows: (1) a total of 21 maintenance and construction workers, representing 15 percent of the workforce in this area; and (2) a total of 17 Gas Customer Meter Services workers representing 12 percent of the workforce in this area. Additionally, Gas Customer Meter Services is unique in that this department serves as a feeder pool for other departments and routinely expects to experience relatively higher internal transfers (11 workers annually) into other departments.

Q. Please describe the Company's resource hiring needs necessary to fill the gaps in its workforce to reliably operate and maintain its electric distribution system.

A. For Electric Operations, the Company has identified that an additional 39 FTEs (36 union employees and 3 management employees) are required over the next three fiscal years ending March 31, 2019 (Fiscal Year 2019), March 31, 2020 (Fiscal Year 2020), and March 31, 2021 (Fiscal Year 2021) in the areas of overhead lines, underground lines, substation maintenance, protection and telecommunications operations, and Customer Meter Services to ensure adequate staffing in advance of projected retirements. Of these

39 FTEs, the Company plans to add 32 fulltime employees in the Rate Year (29 union employees and 3 management employees), 2 fulltime union employees during Data Year 1, and 5 fulltime union employees during Data Year 2, as shown in Table 1, below. For each functional area, the Company is proposing to hire the same or less than the number of projected retirements, respectively, over the next five years.

Table 1 - Electric

	Rate Year (9/1/18 – 8/31/19)	**Data Year 1 (9/1/19 – 8/31/20)**	**Data Year 2 (9/1/20-8/31/21)**
Overhead Lines	12	0	0
Underground Lines	4	0	0
Substation Maintenance	1	0	0
Telecom Protection	2	0	0
Customer Meter Services	10	2	5
Protection (Management)	3	0	0
Total	**32**	**2**	**5**

For Gas Operations, the Company has identified that an additional 48 fulltime employees (42 union employees and 6 management employees) are required over the next three fiscal years ending March 31, 2019 (Fiscal Year 2019), March 31, 2020 (Fiscal Year 2020), and March 31, 2021 (Fiscal Year 2021) in the areas of Customer Meter Services and maintenance and construction to ensure adequate staffing in advance of projected retirements. Of these fulltime employees, the Company plans to add 36 FTE employees in the Rate Year (30 union employees and 6 management employees), 7 FTE union employees during Data Year 1, and 5 FTE union employees during Data Year 2, as shown in Table 2, below. The Company also plans to add a total of 23 FTE employees

(2 union employees and 21 management employees) to work on gas maintenance and construction projects through the Service Company in the Rate Year. For each functional area, the Company is proposing to hire the same or less than the number of projected retirements, respectively, over the next three years.

Table 2 – Gas

	Rate Year (9/1/18 – 8/31/19)	Data Year 1 (9/1/19 – 8/31/20)	Data Year 2 (9/1/20-8/31/21)
Customer Meter Services - Clerical Support	2	0	0
Customer Meter Services – Technician	13	7	5
Damage Prevention	4	0	0
Instrumentation & Regulation	1	0	0
Maintenance & Construction Field Technician	10	0	0
Gas Construction – Welding	1	0	0
Gas Pipeline & Safety QA/QC	3	0	0
Instrumentation & Regulation	2	0	0
Maintenance & Construction	23	0	0
Total	**59**	**7**	**5**

Q. Please describe the Company's resource hiring needs necessary to fill the gaps in its workforce to reliably operate and maintain its gas distribution system.

A. As shown in Schedule OPEX-2, the Company has determined that an additional 25 FTE Customer Meter Services technicians and 10 FTE maintenance and construction technicians are required to stay ahead of anticipated retirements, and safely and reliably

operate and maintain its gas distribution system. Of these 35 employees, the Company expects to hire 23 employees during the Rate Year.

V. Drivers of Increasing Workload For Gas Operations

Q. Are the drivers for the Company's planned staffing increases the same for Electric and Gas Operations?

A. No. For Electric Operations, the critical need lies in hiring incremental staff to replace retiring field workforces in the areas of: (1) maintenance and construction, including electric overhead and underground workers; (2) protection and telecommunications operations, including substation maintenance workers and protection and telecommunications workers; and (3) Customer Meter Services. Employees working in these areas require training on a four- to five-year progression before they are qualified as "rated" electric utility workers capable of fully carrying out the work that the Company needs to perform to maintain and operate the system.

For Gas Operations, there is a critical need for hiring in Customer Meter Services to sequence the necessary training required to field qualified replacement employees in advance of those retiring. There is also a need to hire incremental workforces to meet increasing workload requirements in the areas of maintenance and construction, corrosion, and instrumentation and regulation.

Q. What is causing increased workload requirements for Gas Operations?

A. Unlike the electric distribution business, which operates subject to reliability-based standards, the Company's gas distribution business is subject to comprehensive regulation relating to pipeline safety at the state and federal level. Regulation for the gas operation is set by the Pipeline and Hazardous Materials Safety Administration (PHMSA), which was created in 2004 as an agency within the USDOT. PHMSA oversees and regulates pipeline infrastructure and is charged with developing and enforcing technical regulations for the safe, reliable, and environmentally sound operation of the 2.6 million miles of pipeline transportation infrastructure in the U.S. PHMSA enforces several federal statutes, including but not limited to the Natural Gas Pipeline Safety Act of 1968; the Pipeline Safety Improvement Act of 2002; and the Pipeline Inspection, Protection, Enforcement and Safety Act (PIPES) Act of 2006; as well as federal regulations set forth at 49 C.F.R. Parts 190-199.

Q. How does PHMSA regulation relate to Rhode Island's regulation of pipeline safety?

A. PHMSA is responsible for developing national Pipeline Safety Regulations (Title 49 C.F.R. Parts 191 and 192), which constitute the minimum pipeline safety standards for natural gas transmission and distribution in the United States. PHMSA certifies state jurisdictions to inspect and enforce these pipeline safety regulations for intrastate (transmission and distribution) pipelines. State jurisdictions that choose to enforce the pipeline safety regulations in their state may adopt federal regulations into their state laws at a minimum, or may adopt additional or more stringent safety standards for intrastate

pipeline facilities. Under this construct, state regulation evolves in parallel with changes in the minimum standards set by PHMSA. In addition, if a state agency is not certified, the USDOT retains jurisdiction over the intrastate pipeline systems in that state. Rhode Island is certified by PHMSA to carry out inspection and enforcement of pipeline safety regulations.

Q. What factors have caused PHMSA to intensify its regulatory compliance and oversight activities over the past several years?

A. Historically, PHMSA's pipeline-safety regulations were viewed as contributing to an admirable safety record across the U.S. for pipeline safety. PHMSA's pipeline-safety regulations are comprehensive, specifying detailed procedures and requirements for a broad range of activities including the design, construction, operation, and maintenance of pipeline systems. However, the specificity of these regulations created an inherent inflexibility because every gas operator is required to follow these minimum standards regardless of the actual system characteristics, operating circumstances, or risks. Consequently, a gas operator could comply precisely with PHMSA's standards over an extended period, and the integrity of the system resulting from that compliance may be relatively safer than another system, may be no better than another system, or may actually experience a decline in safety over time. This led to the growing recognition by PHMSA and other industry constituencies that it would be more effective to more specifically address challenges to pipeline integrity on individual distribution systems

than to impose additional compliance actions that would be broadly applicable to all pipeline systems.

To this end, the Pipeline Inspection, Protection, Enforcement and Safety Act of 2006 mandated that PHMSA prescribe minimum standards for integrity-management programs for distribution pipelines. The law directed PHMSA to require operators of distribution pipelines to continually identify and assess risks on their distribution lines, to remediate conditions that present a potential threat to pipeline integrity, and to monitor program effectiveness. Instead of imposing additional prescriptive requirements for integrity management, PHMSA concluded that a requirement for operator-specific programs to manage pipeline system integrity would be more effective given the diversity in distribution systems and the threats to which they may be exposed. PHMSA published the final rule establishing integrity-management requirements for gas distribution pipeline systems on December 4, 2009, with an effective date of February 12, 2010. Operators were given until August 2, 2011 to write and implement system-specific distribution integrity management plans.

Under PHMSA's construct, state or federal inspectors review the integrity management plan for quality and completeness and to ensure that gas operators are doing what their plan says. State and federal inspectors also review the plan to determine whether it is effective. Specifically, state and federal inspectors review the procedures and records to verify that the gas operator performed those procedures as written and in compliance with

required dates. Enforcement is consistent with current practice by the jurisdictional agencies.

On January 3, 2011, President Obama signed the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 (2011 Pipeline Safety Act). The 2011 Pipeline Safety Act significantly amended existing pipeline safety laws and authorized the appropriation of funds to support PHMSA's pipeline-safety activities. The 2011 Pipeline Safety Act affects operators of all types of facilities by imposing more rigorous safety requirements on the owners and operators of natural gas pipeline facilities. In addition, the 2011 Pipeline Safety Act requires that PHMSA re-examine many of its regulations, and revise, expand, and strengthen those regulations, as appropriate. Key provisions affecting gas pipelines address the possible expansion of integrity-management requirements, establishment of standards for leak-detection systems, expanded use of automatic or remote controlled valves, and the verification of gas pipeline records, including those in support of maximum allowable operating pressure.

Effective October 25, 2013, PHMSA implemented new regulations that (i) increase the maximum civil penalty for violations of its substantive pipeline safety regulations; and (ii) make its decision-making process more transparent. The new regulations implement several specific requirements of the 2011 Pipeline Safety Act.

On June 22, 2016, President Obama signed into law additional legislation referred to as "Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2016"' or the "PIPES Act of 2016." This law strengthened PHMSA's safety authority and included many provisions extending PHMSA's oversight of pipeline safety and compliance issues. The PIPES Act of 2016 was designed to assure that PHMSA completed its requirements from the 2011 Pipeline Safety Act requirements and instituted reforms intended to make PHMSA a more dynamic, data-driven regulatory agency.

Q. How have these factors changed the intensity and focus of PHMSA's regulatory compliance and oversight activities?

A. Historically, distribution companies generally developed good track records for state and federal code compliance. To achieve this compliance, distribution companies (including the National Grid gas companies) organized staffing, O&M practices, field documentation, and hiring and training activities around compliance with PHMSA's specified rules. State jurisdictions adopted PHMSA's specifications and copied the specifications into distribution-company O&M manuals. However, enforcement was carried out by the respective state jurisdictions, which meant that the emphasis and exactitude of enforcement was not necessarily uniform or consistent throughout the U.S. Within this context, the impact of a shift in law and regulation from the enforcement of a set of specifications to an integrity-management approach cannot be overstated. As an initial matter, the change in regulation arose from the broad recognition that gas incidents can have devastating – and unacceptable – ramifications. As the agency responsible for

pipeline safety across the U.S, this recognition has placed significant pressure on PHMSA to take action in a meaningful (and visible) way. PHMSA has actively responded to this imperative with comprehensive changes in its regulatory structure and fundamental changes to its enforcement mentality. Moreover, PHMSA is making every effort to demonstrate that rigorous enforcement of its pipeline safety regulations is the new normal.

From a practical perspective, this means that federal enforcement of the pipeline safety regulatory structure is intensifying for distribution companies, requiring strict adherence to PHMSA's design, construction and operating specifications, but also requiring the introduction of a whole series of new work-plan and data collection requirements associated with PHMSA's integrity management approach. Key among these new requirements is the development and execution of the Distribution Integrity Management Plan (DIMP). Implementation of the DIMP within a context of rigorous enforcement of evolving pipeline-safety regulations has been a game-changer for the National Grid gas companies, affecting staffing, work-streams, O&M practices, data-collection requirements, and hiring and training activities, all of which were formerly organized around compliance with PHMSA's specified rules, consistent with historical industry practice.

Q. Could you be more specific about the impact of changing PHMSA regulation on the Company's operations?

A. Yes. There are several aspects of the Company's operations that are affected by this shift in federal regulation. First, there is infrastructure replacement. The replacement of leak-prone infrastructure is a priority under any regulatory construct because it is the most-effective method of improving public safety and does so to an extent that cannot be achieved through any other means. At this point, bare-steel and cast-iron infrastructure replacement is the top risk-mitigation strategy under PHMSA's distribution integrity-management program, and there is a comprehensive plan in place in every jurisdiction within which the National Grid gas companies operate to accomplish the goal of infrastructure replacement.

Reducing excavation damage is another strong focus of PHMSA's pipeline safety improvement initiatives because such damage is typically the leading cause of Class 1 leaks and federally reportable incidents in the United States. This is because almost every excavation-related damage event results in an immediate, significant, and uncontrolled release of natural gas in the presence of people and property. At the same time, although there has been a lot of discussion about infrastructure replacement (and excavation damage) and the interplay with DIMP, there are also significant ramifications that arise from the shift in federal regulation for O&M practices, hiring and training, data collection and analysis, and other operating functions. For example, the Company's efforts in relation to leak detection, leak surveying, leak repair and emergency response

are all O&M functions. Even the basic process of developing and implementing the DIMP has caused the need for organizational changes and additional work-streams. Fundamentally, the entire focus under the integrity-management approach is to enhance safety by identifying and reducing gas distribution pipeline integrity risks. To that end, the rule requires that gas operators identify risks to their pipeline systems where an incident could cause serious consequences and focus priority attention in those areas. The rule also requires that gas operators implement a program to provide greater assurance of the integrity of their pipeline. Under this approach, gas operators are expected to identify threats that are having an impact, or could potentially impact, the operator's system. Once identified, gas operators are required to evaluate those "integrity risks" to determine whether existing risk-management activities are sufficient or if additional/accelerated actions are required.

PHMSA's integrity-management approach recognizes that there are obvious threats to the distribution system that arise from aging infrastructure and third-party damage, and therefore, places the obligation on gas operators to take steps to identify and address these threats. However, PHMSA's integrity-management approach also recognizes that there are a series of threats on a distribution system such as equipment failure, incorrect operations and other system-specific characteristics, which should be addressed to protect the integrity of the system. The integrity-management approach requires gas operators to identify these threats and to evaluate integrity risk to determine if any additional/accelerated actions are required, which is a significant change from past

practice. Thus, data collection and analysis has become a necessity. Moreover, the process is continual in that, once a particular integrity risk is addressed, other identified integrity risks are prioritized in its place.

Q. How has the change in state and federal regulation affected the Company's gas distribution business?

A. The work activities associated with the Company's gas distribution business center around engineering, work planning and scheduling, instructional design, safety and technical training, emergency-response support, and damage-prevention initiatives. The current operating environment has created two drivers of workload change within the Company's gas distribution business, which are: (1) the need to comply fully and effectively with state and federal pipeline safety regulations; and (2) the need to achieve and demonstrate "continuous improvement" under DIMP.

These operating safety, compliance and improvement drivers are causing the need for increased headcount. Employee headcount needs to be increased within the Company's field operations because trained and qualified personnel are needed to staff new and modified work streams and to perform the data collection and analysis required for system management. Moreover, each organizational or process change that is required for compliance, or made in the interest of best-practice execution, has a cascading impact on the staffing, work streams and processes of other employee groups. Each time a change is made in an employee's job tasks, or in the staffing of a position, employee

training (and subsequent qualification) becomes necessary. In addition, the Company is experiencing very real shifts in the nature and number of employees that are coming to the organization to perform this work, combined with the nearing retirement of the deep well of experience that was relied on in the past to assist in training new personnel.

Q. How has PHMSA regulation shaped the Company's operating objectives?

A. Consistent with the requirements of state and federal regulation, the Company's gas operations plans are designed to provide safe and reliable gas delivery service to customers at reasonable costs. Through the Company's Gas ISR Plan, the Company has made increasing investments in its infrastructure to maintain and upgrade its gas delivery system. The Company is working to obtain support for the resources necessary to deal with increasing workload to operate its gas distribution system in a safe and reliable manner and to satisfy state and federal regulatory requirements and initiatives, such as, for example, the area of pipeline and safety compliance.

An important consideration for the Company in ensuring that the system complies with state and federal requirements is the need to have sufficient personnel to provide customer support, respond to emergencies, perform safety inspections and other compliance activities, restore service, and maintain the life of capital assets. The Company has a significant maintenance program to ensure that system assets are utilized to their fullest potential life expectancy. As gas facilities age, maintenance requirements (and associated costs) increase. These workload requirements include more frequent

inspections and testing, increased volume of repairs, and more complex repair work. Importantly, this work is required to prevent failure and maintain the life of the assets until replacement occurs.

The Company's O&M programs also are designed to maintain the service commitments in its gas service quality metrics, which cover various aspects of its performance in the areas of reliability and safety, including metrics measuring customer service, emergency response, leak management, and damage prevention.

Q. Has the Company identified gaps in its staffing levels related to the increase in workload in specific functional areas in the gas distribution business?

A. Yes. The Company is experiencing an increase in workload associated with its O&M programs in the areas of corrosion control and instrumentation and other areas covered by PHMSA pipeline-safety regulations. Schedule OPEX-2 includes a breakdown of the individual incremental positions relating to the increase in O&M workload. Each of these areas is more fully described below.

Corrosion Control & Main Replacement

Q. Please describe the Company's Corrosion Control & Main Replacement program.

A. Corrosion can lead to failures in plant infrastructure and equipment, which are usually costly to repair. Decisions regarding the future integrity of a structure or its components depend entirely upon an accurate assessment of the conditions affecting its corrosion and

rate of deterioration. The Corrosion Department performs field testing, monitoring, upgrades, and repairs to existing corrosion control systems in accordance with federal code requirements (Title 49 CFR Part 192) and industry standards. This includes periodic testing, inspection, monitoring, and diagnostic troubleshooting of the existing corrosion control system. The Corrosion Department provides engineering standards and the design and development of new cathodic protection system and upgrades to existing cathodic protection systems.

The Corrosion Department is required to support, monitor, and maintain all gas assets in accordance with federal regulation. This work is covered as part of the Company's planned capital work; however, the testing and diagnostic work is considered O&M.

Q. What are the increased workload requirements in the corrosion control and main replacement program?

A. The reason for the increase in workload is two-fold. First, the system is aging and, with that aging infrastructure, more work is required for maintenance as part of Title 49 CFR Part 192. Second, corrosion workload increases with an increase of capital projects because any new steel that is being installed as part of those projects require cathodic protection design, installation, and required maintenance for the lifetime of the asset. For workload requirements in this area, the Company has identified the need for two corrosion testers to address work backlogs, as well as an additional engineer. The

corrosion tester position will include, among other things, monthly reports, budgeting, training, and data analysis.

Instrumentation and Regulation

Q. Please describe the Company's instrumentation and regulation program.

A. Instrumentation and regulation is responsible for the safe and reliable installation, operation and maintenance of pressure regulators, instrument systems, and gas conditioning equipment at gate stations, regulator vaults, field SCADA sites, and/or commercial/industrial customers in a manner that is consistent with Company objectives, government regulations, and current technology. Maintaining proper pressure control throughout the Company's entire gas system is imperative to providing safe and reliable service.

Q. What are the increased workload requirements in relation to the instrumentation and regulation program?

A. There have been increases in traffic box installations, telemetry, check metering, gate station telemetry upgrades, odorant, chromatographs, generators, filter separators, and bath heaters, all of which are contributing to the need for additional instrumentation and regulation staff.

For workload requirements in this area, the Company has identified the need for an Instrumentation Specialist position to address increases in the installation of new

telemetry and control systems. In addition, instrumentation and regulation does not currently have a manager for New England. As a result of an increase in workload and responsibilities relating to process safety requirements and systems, there is a need for increased oversight. As a result, there is a need to hire one manager for the New England region. Twenty-five percent of the New England manager's work will be related to oversight in Rhode Island. Lastly, there has been an increase in workload and responsibilities related to process safety inspections, telemetry, and maintenance by approximately 4,800 man hours, resulting in a need to right size the organization. The Company is proposing to hire one additional technician to perform this work.

Q. Please describe the Company's need for additional staffing in relation to construction.

A. Construction support functions include internal groups providing services such as mapping and permitting, resource planning, welding, and construction planning (*i.e.* contract administrators, gas estimators, and project managers). As the Company increases its capital expenditures and executes incremental maintenance work, the Company requires additional staffing resources in the areas of gas project estimators, operations support (permit coordinators, mapping coordinators and technicians), project managers, resource planners, and welding**.** As a result, the Company is proposing to hire 23 employees in the Rate Year to support these functions.

Q. What are the workforce requirements relating to mapping and permitting?

A. Mapping and permitting provides organizational support for all mandated, growth, replacement, and non-infrastructure needs to meet the Company's regulatory commitments. In general, the mapping and permitting function finalizes design, secures local permits, and maintains mapping records, and supports the operation through clerical and time entry functions for all work within Rhode Island gas operations. Support services include work coordination, permit coordination, maps and records, and work support. Currently, the Company is experiencing a need for more resources to act as permit coordinators to establish better community relationships to facilitate the timely issuance of permits. This role does not currently exist in Rhode Island and will greatly help to move planned projects along on a reasonable, planned schedule. There is also a need for additional mapping coordinators and technicians to ensure that all services are mapped correctly and ensure better historical data.

Q. What are the workforce requirements that Resource Planning will provide.

A. The Resource Planning group develops and oversees the work plan necessary to adhere to the Company's capital plan and compliance obligations. The Company's Customer Meter Services coordinates with construction to fit meters at a customer's premises. Given the increase of work and focus on compliance and mandated driven programs and other categories of work, the Company has identified the need to have a dedicated resource to oversee these programs and the Company's Customer Meter Services operations in Rhode Island. Therefore, the Company is planning to hire three new

employees to fill the roles of CMS Program Manager, Maintenance and Construction Manager, and Resource Planning Manager.

Q. What are the workforce requirements for a welding supervisor?

A. The welding supervisor provides oversight to the Rhode Island internal and external welding resources and is responsible for assuring adherence and compliance to the welding policy and procedures, overseeing welding operations, monitoring requalification, and providing yearly spot checks. Currently, there is only one welding supervisor for all of New England. This welding supervisor is responsible for overseeing 18 in-house employees and approximately 50 contractor welders. National Grid targets a ratio of 13 welders per supervisor. Adding an additional supervisor with a Rhode Island presence will provide more oversight to ensure adherence to welding processes and procedures.

Q. What are the workforce requirements for construction planning?

A. Construction planning includes activities such as contract administration, estimating, project management. Contract administration provides contracting support for Rhode Island complex construction and field operations and serves as a conduit to procurement to help develop the scope of work and contracting strategy. Contract administration also provides support to all functions for translation of business requirements to contract language, change orders, amendments, claims disputes, and negotiation.

Gas project estimating creates and/or assists with estimates for complex construction projects and reviews or analyzes the methods and tools used for standard construction. Complex construction projects can originate within the Company or externally from public works activity. In addition, gas project estimating assists with special projects or situations requiring a unique/detailed estimate or cost analysis. Estimating generally requires special and/or professional competencies and skills to complete due to unique project elements and understanding key components and/or technical requirements for the non-routine nature of the project.

Gas complex project management is accountable for the successful delivery of complex projects from inception through close-out in support of the capital delivery strategy through cross-functional collaboration. Priorities are mitigating risk, driving schedule, budget, and performance, while providing full visibility of key project data to stakeholders.

Q. Why are additional workforces needed for these construction planning functions?

A. The Company does not currently have dedicated personnel in Rhode Island to handle the contract administration and gas estimating functions. As a result, the Company needs additional personnel to deliver the Company's capital plans on time and on budget. For example, the gas estimating role will help to ensure accuracy and predictability over costs estimates for gas complex and standard projects. Specifically, the Company is proposing to hire one Contract Specialist Analyst, two gas estimators, and five project managers.

Q. What are the Company's resource hiring needs to meet its contractual and regulatory obligations?

A. The Company has identified the need to hire additional FTEs in the following areas: (1) two Customer Meter Services clerical personnel pursuant to the collective bargaining agreement that the Company executed with Local 12431 and Local 310B; (2) four damage prevention inspectors to comply with state and federal regulatory requirements; and (3) a pressure-regulation engineer to ensure compliance with Pipeline Safety Act mandates.

Q. Please elaborate on the Company's agreement with Local 12431 and Local 310B.

A. Pursuant to the collective bargaining agreement that the Company executed with Local 12431 and Local 310B, the Company is required to hire one additional clerical support personnel in each union for a total of two positions to provide administrative support to the field workers. This will enable the highest technical personnel to increase their presence in the field, thereby providing greater oversight, and to train newer employees.

Q. What are the drivers of increased workload pertaining to the Company's damage prevention program?

A. Damage to gas facilities from third parties digging near pipelines is a major cause of gas accidents and a contributing factor to some of the worst incidents in the history of the natural gas industry. Over the past several years, the number of Dig Safe requests has steadily climbed based on many factors including an improved economy, the increased

awareness of the public around 811, and the importance of safe digging. In addition, there has been a heightened awareness and enforcement of Dig Safe laws at the state and federal level. Rhode Island law sets forth numerous requirements for utilities regarding damage prevention and safe digging, as set forth in R.I. Gen. Laws § 39-1.2-1 et. seq. As a result, there is a need to hire an additional four FTEs to allocate more resources to these critical job functions. With the increase in workload comes the possible increase in third party damages. Third-party damage events not only threaten public safety, but also drive increases in the Company's maintenance cost associated with repairs.

The Company previously outsourced the work associated with the marking of the location of underground facilities. With the increase in the number of Dig Safe requests, the Company decided to bring this work back in-house and to expand this department. The Company has also experienced an increase in the number of "standby" requests relating to third-party excavations. Moving the work in house also provides the Company with more control and visibility of the workload.

Q. What are the increased workload requirements causing the need for an additional pressure regulation engineer?

A. The Pipeline Safety Acts of 2011 and 2016 mandate that PHMSA establish rules requiring operators to demonstrate that their pipelines are "fit for service." This includes reviewing existing records to determine if prior strength tests (hydro static pressure tests) were completed at the time of construction, as well as other records that prove the

pipeline is operating within design parameters. The Company understands that PHMSA will be issuing a rulemaking to address these mandates and implement changes to the regulations for gas take stations. An engineer is required to assist with this program. This position will be a 50/50 split with Massachusetts.

Q. What are the Company's resource hiring needs for its gas safety programs?

A. The Company is planning to add four additional employees in the Rate Year to support its gas pipeline and safety programs. Specifically, the Company is planning to add three quality assurance and quality control inspectors and one senior scheduler relating to operator qualification testing. These additional personnel will enable the Company to operate the gas distribution system in a safe and reliable manner.

The quality assurance/quality control (QA/QC) program was deployed in 2008 across National Grid's U.S. gas service territory; however, the program did not include resources dedicated to the Rhode Island jurisdiction. QA/QC is an integral component in validating compliance with gas safety-related procedures and work methods, meeting pipeline safety regulatory compliance initiatives, and ensuring that regulatory commitments are being addressed in the field. The proposed enhancements require the addition of three management QA/QC Inspectors to support the effectiveness of the QA/QC program and will encompass maintenance and construction, damage prevention, corrosion, gas leakage survey, and gas instruments and regulations. Two management QA/QC inspectors will be dedicated to field inspection of internal and external crews

responsible for gas main and service replacement, and complex construction projects for the purpose of validating compliance with regulatory and Company procedural requirements. One management QA/QC inspector will be responsible for compliance inspections related to maintenance activities involving damage prevention, gas leakage survey, corrosion, and instrumentation and regulation.

In addition, the Company is proposing to hire one operator qualification testing Senior Scheduler. The operator qualification program is a federally mandated program that requires that any employee working on pipeline must pass a series of tests to qualify. The need for this scheduler was determined based on the number of gas field operations employees falling under the operator qualification program, and the fact that the operator qualification testing is migrating to new enhanced security testing sites. The operator qualification testing schedulers will be responsible for scheduling internal gas field operations employees to undergo operator qualification testing at the third party vendor testing facility.

Q. Is the Company proposing to add any additional personnel?

A. Yes. The Company is proposing to hire an encroachment preventer, which will be a part-time contractor position. The encroachment preventer is a "boots on the ground" contractor whose role is to visit different job sites where public works activity is taking place, and to assist the third-party excavators by ensuring that they do not encroach upon

the Company's cast iron mains. Public works activity has increased substantially in Rhode Island, warranting a need for this position.

Q. Is the Company proposing any non-labor O&M incremental expense associated with its safety and compliance programs?

A. Yes. The Company is proposing additional funding for the following programs: (1) $300,000 per year for inspections in connection with its integrity management Program; (2) $300,000 per year for records review in connection with its integrity verification process programs; and (3) $200,000 per year for enhancements to its public awareness program.

Q. Please describe the workload requirements relating to the Company's transmission integrity management activities.

A. The transmission integrity management plan is a testing and inspection program to identify corrosion and third-party damage on transmission-level pipelines on the Company's system. The testing is an above ground method that can identify flaws in the pipe coating and cathodic protection system. This is followed up by excavations, inspection, and repair based on the testing data. The testing schedule will be on a seven-year cycle, completing one pipeline each year. This program is related to the management of the Company's gas pipeline systems that operate at 200 psig and above. The Pipeline Safety Acts of 2011 and 2016 mandate that PHMSA consider whether the existing transmission integrity management plan should be expanded beyond the current

requirements. For Fiscal Years 2017 and 2018, the Company has implemented a voluntary integrity management plan for its pipelines operating at 200 psig and above.

Q. Please describe the increased workload relating to the Company's Integrity Verification Program.

A. The Pipeline Safety Acts of 2011 and 2016 mandate that PHMSA establish rules requiring operators to demonstrate that their pipelines are "fit for service". This includes reviewing existing records to determine whether prior strength tests (hydro static pressure tests) were completed at the time of construction and reviewing other records that prove the pipeline is operating within design parameters. PHMSA issued a guidance document in 2011, and the Company understands that PHMSA will issue a final rule requiring a records review and verification process for transmission-connected pressure regulating stations and take stations.

The Company is planning to establish a Transmission Station Integrity Management program that incorporates the elements of the DOT's proposed Integrity Verification Program rulemaking and PHMSA guidance document to conduct a records review of city gate stations and transmission regulator stations. Because the properties and characteristics of transmission facilities are the same regardless of whether they are inside or outside of a station, it is prudent to perform records verification of materials, welds, welding materials and procedures, and hydrostatic testing of piping and other elements within the stations.

Q. What are the increased workload requirements relating to the Company's public awareness program?

A. In response to new federal and state regulatory requirements to educate and inform the public on pipeline safety as a result of a number of pipeline incidents around the country, the Company is proposing to enhancements its existing public awareness program that will be designed to provide outreach to customers that is more specifically tailored to the customer's perspective.

Q. Why do staffing additions have such a direct impact on cost?

A. Staffing additions are a significant cost driver because the Company incurs a series of costs associated with each employee added. In addition to the obvious direct costs of wages, benefits, and taxes, the Company incurs indirect costs associated with vehicles, tools, fuel, personal protection equipment, and other costs. However, a significant cost driver associated with staffing additions and changes is training. As discussed in the following section, the Company's business requires technical expertise in the majority of positions within operations. Every time a new employee is added, or an employee changes positions within the Company, training is required. Similarly, every time the Company changes a work practice or work-stream, technical training is required to some degree, regardless of whether the work practice change is minimal, moderate or significant.

VI. Drivers of Increasing Workload For DG Interconnections

Q. Why is the Company proposing to add additional DG personnel?

A. The Company proposes to add additional employees above current staffing levels to process the very large existing and sustained increase in DG interconnection service applications within the timeframes stipulated by the recent amendments to the Amended DG Interconnection Statute, and to meet the needs of customers who are submitting these applications. The number of DG interconnection applications has increased significantly since the Company's last base distribution rate case in Docket No. 4323, The Narragansett Electric Company d/b/a National Grid Application for Approval of Change in Electric Base Distribution Rates and Gas Delivery Service (the 2012 Rate Case), in large part due to advances in state policy that strongly encourage the development of more renewables, including the Renewable Energy Growth Program (Chapter 26.6 of Title 39 of Rhode Island General Laws). These policy initiatives, coupled with the more aggressive timeframes for completion of the interconnection work from the application stage through completion of the system modifications mandated by Rhode Island law, requires that the Company hire incremental employees to process this additional work.

Q. Does the Company have any data to support the increase in DG interconnection applications?

A. Yes, Figure 1 below demonstrates that, from calendar year 2012 through the majority of calendar year 2017, the Company experienced dramatic increases in the number of total and complex DG interconnection applications received, both in volume of applications

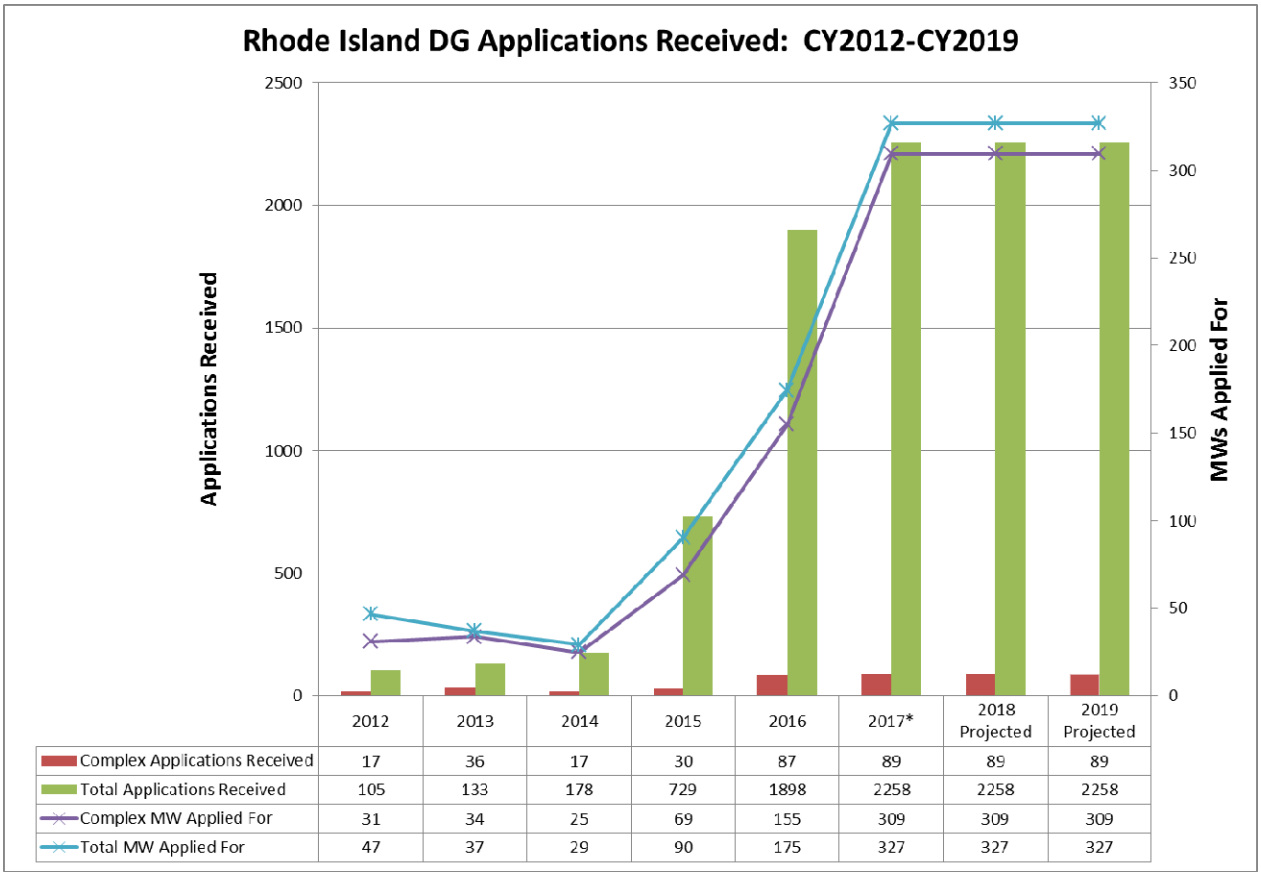
received and in the size (megawatt or MW) of the applications. Although complex applications represent a small portion of the total number of applications, the applications require substantial effort and analysis on an individual basis and constitute the most significant portion of application megawatts. These complex applications have nearly tripled since 2015, and the amount of megawatts has nearly doubled between 2016 and 2017. This has placed an unsustainable study and analysis burden on the Company, requiring additional employees to support this demonstrated and continued effort. Similarly, and more noteworthy, Figures 2A and 2B illustrate the substantial increase in DG interconnections from an applications completed and megawatts connected perspectives over the same time period. Interconnections represent the completed work and more closely reflect the Company's total effort across multiple functions to meet customer needs. Figure 2A shows a low, conservative forecast, assuming 2018 and 2019 levels are matched to 2017 levels, which would be the minimum necessary to maintain alignment with state energy policy. As shown by Figure 2A, the projected 2018 total megawatts installed since 2012 would be 193 MW. This aligns with, and is in fact nearly one year ahead of, the Renewable Energy Growth Program's 2019 goal.[1]

The forecast demonstrates that sustained interconnection levels as experienced in 2017, roughly two to three times 2016 amounts, continue to interconnect almost 60 MW per

[1] Renewable Energy Standard (RES) 40 megawatts by 2014 plus Renewable Energy Growth Program 160 megawatts by 2019 equals 200 megawatts total interconnected by 2019.

year. In other words, the need for additional employees to interconnect viable projects through the construction stage of the interconnection process is supported *without any interconnection growth*, which is certainly not what the expectation is for Rhode Island. Figure 2B, representing a high-case forecast, reinforces this point. The Company currently has over 1,000 applications applying for over 390 MW with estimated in service dates in 2018. Using a 54 percent expected success rate, this results in an estimated 210 MW due for interconnection in 2018, driving the need for new employees to accomplish the related interconnection processing. Both the low and high-case forecasts exceed the latest revision extending the Renewable Energy Growth Program an additional ten years from 2020 through 2029, and increasing the annual target to 40 MW per year with a total cumulative procurement of 400 MW. Consequently, actual data, forecasted sensitivities, and state policy initiatives are driving the increase in DG interconnection applications and associated work load.

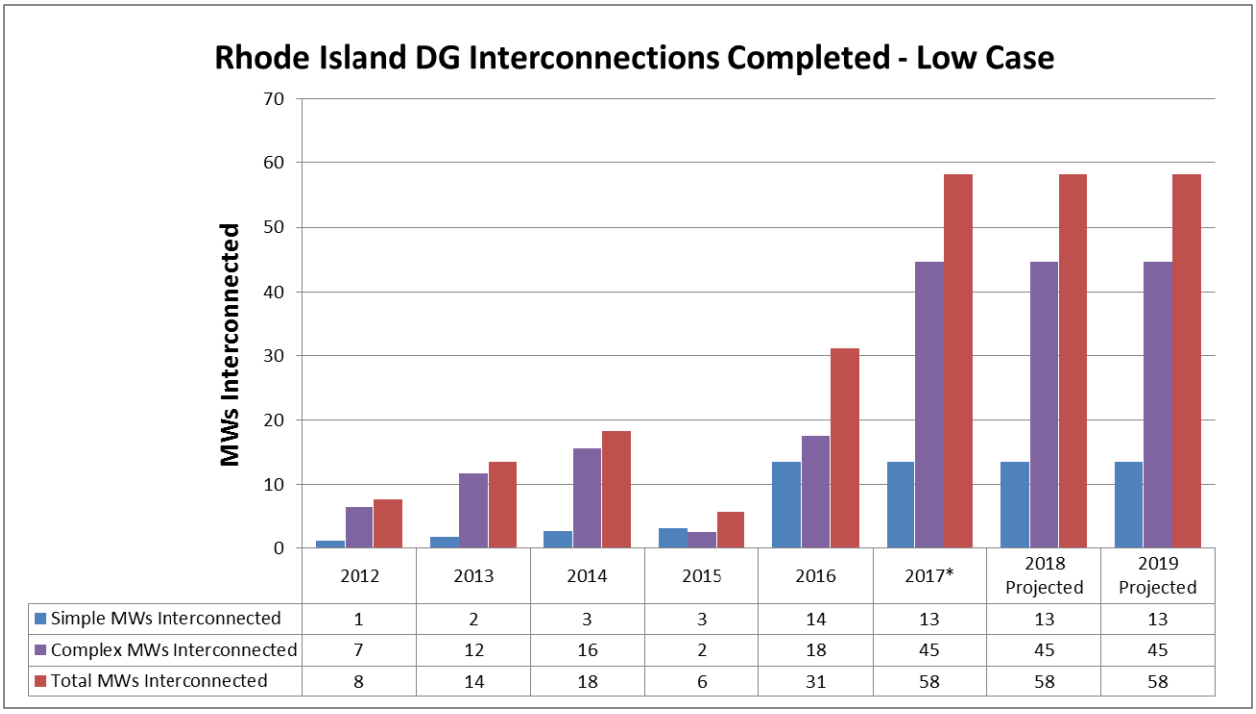
FIGURE 1



	2012	2013	2014	2015	2016	2017*	2018 Projected	2019 Projected
Complex Applications Received	17	36	17	30	87	89	89	89
Total Applications Received	105	133	178	729	1898	2258	2258	2258
Complex MW Applied For	31	34	25	69	155	309	309	309
Total MW Applied For	47	37	29	90	175	327	327	327

(*the last two months of 2017 data are projected)

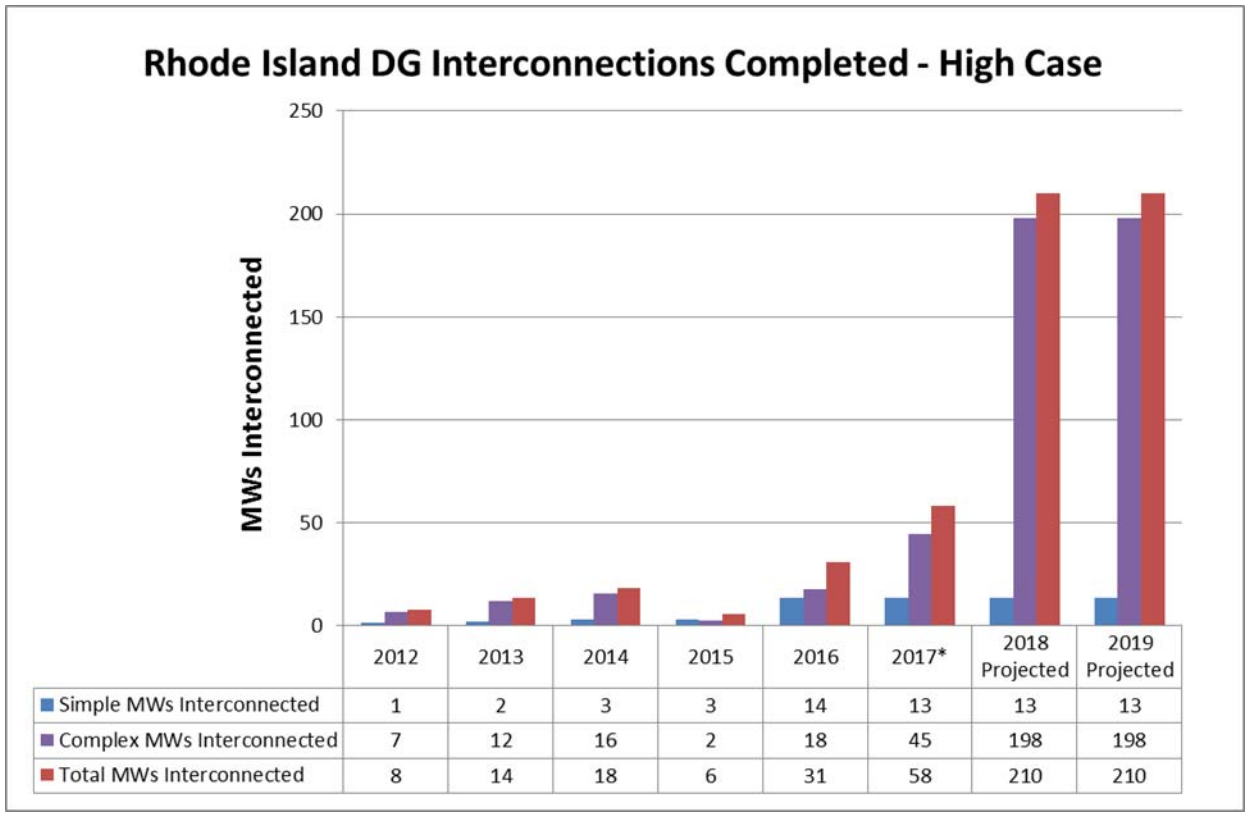
FIGURE 2A



	2012	2013	2014	2015	2016	2017*	2018 Projected	2019 Projected
Simple MWs Interconnected	1	2	3	3	14	13	13	13
Complex MWs Interconnected	7	12	16	2	18	45	45	45
Total MWs Interconnected	8	14	18	6	31	58	58	58

(*the last two months of 2017 data are projected)

FIGURE 2B



	2012	2013	2014	2015	2016	2017*	2018 Projected	2019 Projected
Simple MWs Interconnected	1	2	3	3	14	13	13	13
Complex MWs Interconnected	7	12	16	2	18	45	198	198
Total MWs Interconnected	8	14	18	6	31	58	210	210

(*the last two months of 2017 data are projected)

Q. What are the specific policy initiatives that are driving the increase in DG applications?

A. In March 2017, Governor Gina M. Raimondo announced a strategic goal to increase the amount of clean energy in the state by 10 times by the end of 2020 – achieving a total of 1,000 MW of clean energy projects. Additionally, in June 2017, Governor Raimondo signed into law a package of renewables legislation. Specifically, R.I. Gen. Laws § 39-26.6-12(5) extended the Renewable Energy Growth Program for an additional ten years

from 2020 through 2029, and increased the annual target to 40 MW per year with a total cumulative procurement of 400 MW of renewable energy between 2020 and 2029. In addition, R.I. Gen. Laws § 39-26.4-2 expanded virtual net metering eligibility within the community remote net metering program to include educational institutions, hospitals, and nonprofit corporations and R.I. Gen. Laws § 39-26.4-3 eliminated the 30 MW cap on the maximum, aggregate amount of community remote net metering systems for net metering finance arrangements involving these entities. The DG market is responding robustly to these state policy initiatives, and, as a result, the Company is receiving significantly larger and more complex DG applications.

This increase in larger-sized and more complex applications is further compounded by the Amended DG Interconnection Statute, which took effect as of July 1, 2017 and mandates aggressive timeframes for the completion of the interconnection work, from the application stage through completion of the system modifications. As a result of the new law, the Company is facing the challenge of having to complete various tasks and operations simultaneously to meet the statutory deadlines, necessitating a need for additional personnel. The Company expects to be held accountable for meeting these deadlines and, therefore, must plan for an adequate level of staffing to meet those requirements.

Q. Why is the size of the DG interconnection applications significant to the Company's request for additional personnel?

A. Larger-sized DG interconnection applications are typically more complicated to study and generally require substantial system modifications. This results in extensive internal and external coordination. Additionally, the analytical and administrative workload for these applications is growing due to the extension of the Renewable Energy Growth Program and the expansion of the community remote net metering program, as discussed above. The Company expects that there will be continued growth in the net metering and community remote net metering programs. Therefore, additional personnel are necessary to support the growing workload and meet customer expectations associated with these programs.

In addition to all other driving factors, the Company is experiencing increased workload from the June 14, 2016 RIPUC No. 2163 Standards for Connecting Distributed Generation revision requirement that the Company perform cost reconciliations for all projects with system modifications. The workload arising from the required reconciliations has resulted in a substantial amount of increased work given the rapid increase of DG interconnections in Rhode Island.

Q. Are there other considerations that are impacting the Company's decision to hire additional DG personnel?

A. Yes. In addition to the reasons stated above, the Company's proposal to add additional DG personnel is, in part, to be responsive to the concerns of the Rhode Island Division of Public Utilities and Carriers (Division) and the Office of Energy Resources (OER) regarding the Company's process for interconnections. The Company, the Division, and the OER have been meeting quarterly for approximately the past year. The purpose of these meetings has been to review the Company's progress in processing DG applications and in responding to issues within the DG developer community, such as time to process applications, transparency, and costs. The Company is launching an online interconnection application portal to provide the RI DG community with greater visibility of the current DG inventory in Rhode Island. In addition, the Division and OER have urged the Company to enhance its staffing complement to not only manage the expected increases in applications within tariff timeframes, but also to manage the construction-related work resulting from the growing number of applications entering that stage of the interconnection process.

Q. Please describe the various functional areas that support the Company's DG interconnection work.

A. The following function areas are critical for processing the DG interconnection workload from the planning and design phase through to construction, and are discussed below: (1) customer energy integration; (2) distribution planning and asset management;

(3) substation engineering; (4) protection and telecommunications engineering; (5) distribution design; and (6) maps and records.

Customer Energy Integration

Customer energy integration provides technical assistance, guidance, and oversight for the assessment and development of the Company's interconnecting customers' complex DG and renewable energy projects in accordance with tariffs and technical standards, so as not to adversely affect the Company's electric power system and its ability to provide reliable and safe electric service. Customer energy integration also enables expeditious processing of these customer requests to interconnect. Customer energy integration personnel have a customer-facing role and are involved during the front-end, application phase of the interconnection process.

Distribution Planning and Asset Management, Substation Engineering, and Protection and Telecom Engineering

Distribution planning and asset management, substation engineering, and protection and telecom engineering are involved in the study and design phase of the interconnection work, and support the growth of the DG portfolio. These areas consist of planners and engineers, who ensure that interconnections are completed safely and efficiently.

Distribution Design

Distribution design provides technical expertise and support to engineering and operations, as well as to the customer. The designers ensure that the designs meet standards are efficient and safe to build. In addition, an engineering liaison provides consultant oversight to ensure successful delivery of capital project, quality of work, and that the design meets applicable standards, as well as customer and Company requirements and expectations.

Maps and Records

Maps and records is responsible for ensuring that geographic information system (GIS) and Company maps are accurately updated, recorded, and maintained to reflect distribution electric system assets.

Q. Please describe the Company's resource hiring needs within each of these function areas to support the increase in DG interconnection work.

A. The Company has identified 29 employees over the Rate Year, Data Year 1, and Data Year 2 to support the increased number of complex DG interconnection activities. The Company plans to add 19 employees during the Rate Year (five union employees and 14 management employees); six management employees during Data Year 1; and four management employees during Data Year 2 to support DG interconnections. These positions are shown in Table 2, and described below.

Table 2

	Rate Year (9/1/18 – 8/31/19)	Data Year 1 (9/1/19 – 8/31/20)	Data Year 2 (9/1/20-8/31/21)
Customer Energy Integration	3	2	1
Distribution Planning and Asset Management	5	0	0
Substation Engineering	2	2	1
Protection & Telecom Engineering	3	2	2
Distribution Design	3	0	0
Maps & Records GIS Coordinator	1	0	0
Maps and Records Technician	2	0	0
Total	**19**	**6**	**4**

Customer Energy Integration

The addition of six full-time customer energy integration positions will enable the Company to meet the existing and projected workload associated with the increased number of complex DG interconnection service applications that the Company is and will be receiving, and to comply with the new timeframes established by the Amended DG Interconnection Statute in completing system modifications associated with those interconnection service applications. In addition, the Company will be better positioned to meet customer demand and expectations arising out of the increase in renewables-related work and interconnections in accordance with its tariffs.

Distribution Planning and Asset Management, Substation Engineering, and Protection and Telecom Engineering

The addition of five engineers for distribution planning and asset management will support DG work load and will consist of a distribution planner, two field engineers, a substation planner, and a protection planner. The two field engineers will support the overall increase in DG applications. The three planners are required due to the increase in application complexity.

The addition of five engineers for substation engineering will support growth of the DG portfolio to ensure that interconnections are completed safely and efficiently. The addition of seven engineers for protection and telecom engineering will support growth of the DG portfolio and require additional expertise, including in the area of protection, telecom, and controls and integration, to ensure that interconnections are completed safely and efficiently.

Distribution Design

The addition of three engineers for distribution design will support the development of construction work packages.

Maps and Records

The Company is also proposing the addition of one GIS coordinator, which is a newly established management role for maps and records. This person will be responsible for

training, standardization, overall mapping and data quality improvements, meeting work plan requirements, as well as replying to regulatory and audit requests. This role has been implemented in the service territories of the Company's affiliates and has been successful and effective in enhancing the data quality of the Company's GIS and other facility records. This position will provide oversight to ensure successful delivery of quality maps, meeting Company requirements, and improving customer satisfaction. The addition of two technicians for maps and records will provide expertise and support to engineering, operations, and distribution control. The technicians will support and maintain underground construction work packages for internal and external designers. Because of the substantial customer demand to install DG, the technicians will map the increased workload in a safe, efficient, and timely manner.

Q. How will Rhode Island customers benefit from these additional personnel?

A. Additional DG personnel will greatly augment the Company's ability to meet the existing and projected workload associated with the increased number of larger, complex DG interconnection service applications that the Company is and will be receiving. In addition, these incremental personnel will support the Company's compliance with the new timeframes established by the Amended DG Interconnection Statute for completing system modifications associated with those interconnection service applications. The Company will also be better positioned to meet customer demand and expectations arising out of the increase in renewables-related work and interconnections in accordance with its tariffs.

Lastly, overall, the additional staffing should improve the customer's overall interconnection process experience through timely responses, interconnections, and reconciliations, thereby establishing an environment where customers and developers are comfortable and confident installing renewable energy systems.

Q. Is the Company's proposal consistent with the goals and benefit-cost framework that the PUC adopted in Docket No. 4600?

A. Yes, Table 3 below addresses how the proposal either advances, detracts from, or is neutral to each of the goals stated in the PUC's Guidance on Goals, Principles and Values for Matters Involving The Narragansett Electric Company d/b/a National Grid (Docket 4600 Guidance Document), which the PUC formally adopted and finalized at its October 27, 2017 Open Meeting. Although the Company has not performed a cost-benefit analysis in relation to hiring additional DG personnel, the proposal presents qualitative considerations in the form of the benefits discussed above, and will further the state's renewable energy goals. As a result, the Company's proposal for additional personnel is consistent with the Docket 4600 Guidance Document and should be approved.

1 **Table 3**

GOALS FOR "NEW" ELECTRIC SYSTEM	IMPACT	EXPLANATION
Provide reliable, safe, clean, and affordable energy to Rhode Island customers over the long term (this applies to all energy use, not just regulated fuels)	Advances and detracts	The Company's proposal for DG work volume support is directly aligned with the state's policies in regards to a clean and affordable energy future. Widespread DG has the potential to result in system reliability and safety impacts, as indicated by the Germany and Hawaii efforts. Grid modernization, as aligned with Power Sector Transformation, is required in parallel with the DG proliferation to avoid detracting from electric system safety and reliability.
Strengthen the Rhode Island economy, support economic competitiveness, retain and create jobs by optimizing the benefits of a modern grid and attaining appropriate rate design structures	Advances	The Company's proposal creates jobs to optimize the benefits of a modern grid containing significant numbers and sizes of distributed energy resources. The proposal also strengthens the Rhode Island economy by supporting the energy market competitiveness created by those resources.
Address the challenge of climate change and other forms of pollution	Advances	The Company's proposal supports the work to connect renewable power resources. These resources are needed to meet the state energy policy goals, particularly as those goals relate to reduction of greenhouse gas emissions.
Prioritize and facilitate increasing customer investment in their facilities (efficiency, distributed generation, storage, responsive demand, and the electrification of vehicles and heating) where that investment provides recognizable net benefits	Advances	The non-complex DG applications and interconnections that can be calculated from Figures 1 and 2 above represent customers investing in their facilities. The Company's proposal to support these applications and interconnections directly aligns with these goals.
Appropriately compensate distributed energy resources for the value they provide to the electricity system, customers, and society	Neutral	The Company's proposal does not change the compensation distributed energy resources receive. However, the proposal does intend to accelerate access to the electric system such that the distributed energy resources can receive compensation as early as possible.
Appropriately charge customers for the cost they impose on the grid	Neutral	The Company's proposal does not change the analysis or guidelines that determine the system impacts or interconnection costs for distributed energy resources. However the proposal intends to enable timely analysis to inform the distributed energy resource providers of their potential interconnection costs so that timely business decisions can be made.
Appropriately compensate the distribution utility for the services it provides	Advances	The Company's proposal requests additional resources and the recovery of the costs of those resources in direct alignment with this goal.
Align distribution utility, customer, and policy objectives and interests through the regulatory framework, including rate design, cost recovery, and incentive	Advances	The Company's proposal seeks to obtain resources to align with the customer and policy objectives of increase DG interconnections.

2

3

VII. Other Incremental O&M Expense Associated With Electric Operations

1. OSHA Training Requirements

Q. What is the Company's proposal regarding OSHA training requirements?

A. Having a properly qualified workforce is critical to the Company's ability to provide safe and reliable service to its customers. The Company is proposing to recover $41,550 in support of additional crane operator licenses for 30 employees, representing $1,385 per license. The crane operator licenses are required in order to comply with OSHA regulations.

Q. Please elaborate on this OSHA requirement.

A. On August 9, 2010, OSHA published the final rule for "Cranes and Derricks in Construction" (29 CFR Part 1926), which required employers to ensure that their crane operators are certified under at least one of four options: (1) certification by an independent testing organization accredited by a nationally recognized accrediting organization; (2) qualification by an employer's independently audited program; (3) qualification by the U.S. military; or (4) compliance with qualifying state or local licensing requirements. The initial compliance date was November 2014. On September 25, 2014, OSHA issued a final rule extending the deadline for crane operator certification requirements by three years to November 10, 2017. Recently, the OSHA Crane Advisory Group issued a final rule to extend the compliance date to November 10, 2018. The crane operator certification is required once every five years.

2. Trouble Trucks

Q. What is the Company's proposal regarding trouble trucks?

A. The Company is proposing additional costs associated with the lease of three trouble trucks in this rate proceeding. The Company leased the trouble trucks during Fiscal Year 2017. The trucks are necessary to improve truck availability and response time. The Company's fleet is critical to its ability to provide safe and reliable service to its customers. The additional trucks are consistent with other National Grid service territories for the number of trucks per customer.

VIII. Conclusion

Q. Does this conclude your testimony?

A. Yes, it does.

Schedules of
Rosario, Jr, Amaral III, Constable

Index of Schedules

Schedule OPEX-1

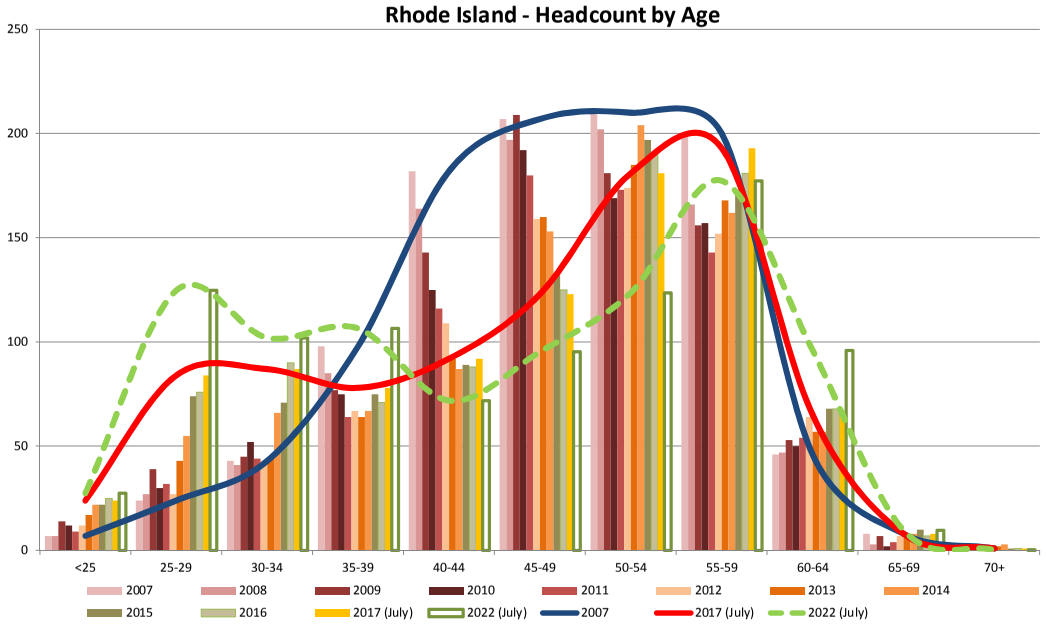
Schedule __ OPEX-1

Retirement Trend for the Company's Utility Workers

Rhode Island Workstate Employee Population	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 (July)	2022 (July)
<25	7	7	14	12	9	12	17	22	22	25	24	28
25-29	24	27	39	30	32	27	43	55	74	76	84	125
30-34	43	41	45	52	44	43	44	66	71	90	87	102
35-39	98	85	77	75	64	67	64	67	75	71	78	106
40-44	182	164	143	125	116	109	92	87	89	88	92	72
45-49	207	197	209	192	180	159	160	153	132	125	123	95
50-54	210	202	181	169	173	174	185	204	197	191	181	124
55-59	200	166	156	157	143	152	168	162	172	181	193	177
60-64	46	47	53	50	54	64	57	57	68	68	65	96
65-69	8	3	7	2	4	7	6	8	10	7	8	10
70+	1		1	1	1	1	2	3	1	1	1	0

	2007	2017 (July)	2022 (July)
	7	24	28
	24	84	125
	43	87	102
	98	78	106
	182	92	72
	207	123	95
	210	181	124
	200	193	177
	46	65	96
	8	8	10
	1	1	0

% <40	**17%**	**29%**	**39%**
% 40-49	**38%**	**23%**	**18%**
% 50-59	**40%**	**40%**	**32%**
% 60+	**5%**	**8%**	**11%**
% 55+	**25%**	**29%**	**30%**



** Estimated retirements in next 5 years replaced in younger age groups (15% <25, 60% 25-29, 15% 30-34, 10% 35-39) to get age distribution in 2022.
**Filtered by workstate RI for Regular and Active Employees

THE NARRAGANSETT ELECTRIC COMPANY
d/b/a NATIONAL GRID
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Schedule __ OPEX-2

Positions to Meet Increased Gas O&M Workload

Electric and Gas Operations and DG Interconnection Incremental FTEs
Rate Year Ending August 31, 2019
and Data Years 1 and 2

Position	Company	Gas/DG/Electric	Rate Year 2019	Data Year 1	Data Year 2
CMS- Clerical Support	Narragansett Gas	Gas	1	0	0
CMS- Clerical Support	Narragansett Gas	Gas	1	0	0
Damage Prevention- Inspector Costs	Narragansett Gas	Gas	1	0	0
Damage Prevention- Inspector Costs	Narragansett Gas	Gas	1	0	0
Damage Prevention- Inspector Costs	Narragansett Gas	Gas	1	0	0
Damage Prevention- Inspector Costs	Narragansett Gas	Gas	1	0	0
CMS- Field Technician	Narragansett Gas	Gas	1	0	0
CMS- Field Technician	Narragansett Gas	Gas	1	0	0
CMS- Field Technician	Narragansett Gas	Gas	1	0	0
CMS- Field Technician	Narragansett Gas	Gas	1	0	0
CMS- Field Technician	Narragansett Gas	Gas	1	0	0
CMS- Field Technician	Narragansett Gas	Gas	1	0	0
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CMS- Field Technician	Narragansett Gas	Gas	1	0	0
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CMS- Field Technician	Narragansett Gas	Gas	0	0	1
CMS- Field Technician	Narragansett Gas	Gas	0	0	1
CMS- Field Technician	Narragansett Gas	Gas	0	0	1
CMS- Field Technician	Narragansett Gas	Gas	0	0	1
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
M&C Field Technician	Narragansett Gas	Gas	1	0	0
Corrosion Control & Main Replacement- Corrosion Testers	Service Company	Gas	1	0	0
Corrosion Control & Main Replacement- Corrosion Testers	Service Company	Gas	1	0	0
I&R- Instrumentation Specialist	Narragansett Gas	Gas	1	0	0
I&R- Manager	Narragansett Gas	Gas	1	0	0
I&R- Technicians	Narragansett Gas	Gas	1	0	0
Contract Administration- Contract Specialist Analyst	Service Company	Gas	1	0	0
Gas Project Estimating- Estimator	Service Company	Gas	2	0	0
Project Management- Project Manager	Service Company	Gas	5	0	0
Pressure Regulation Engineering- Engineer	Service Company	Gas	1	0	0
Operations Support- Mapping Techs	Service Company	Gas	2	0	0
Operations Support- Work / Permit Coordinators	Service Company	Gas	3	0	0
Operations Support- Mapping Coordinator	Service Company	Gas	2	0	0
Corrosion Control & Main Replacement- Engineer	Service Company	Gas	1	0	0
Resource Planning- CMS Program Manager	Service Company	Gas	1	0	0
Resource Planning- M&C Program Manager	Service Company	Gas	1	0	0
Resource Planning- Manager	Service Company	Gas	1	0	0
Gas Construction - Welding Supervisor	Narragansett Gas	Gas	1	0	0
Gas Pipeline & Safety Compliance- QA/QC Inspectors	Narragansett Gas	Gas	3	0	0
Gas Pipeline & Safety Compliance- Operator Qualification Testing- Senior Scheduler	Service Company	Gas	1	0	0
CEI Consultant	Service Company	DG	1	0	0
CEI Consultant	Service Company	DG	1	0	0

Electric and Gas Operations and DG Interconnection Incremental FTEs
Rate Year Ending August 31, 2019
and Data Years 1 and 2

Position	Company	Gas/DG/Electric	Rate Year 2019	Data Year 1	Data Year 2
CEI Analyst	Service Company	DG	1	0	0
CEI Facilitator	Service Company	DG	0	1	0
CEI Consultant	Service Company	DG	0	1	0
CEI Analyst	Service Company	DG	0	0	1
CEI Marketing	Service Company	DG	1	0	0
Distribution Design	Narranagansett Electric	DG	1	0	0
Distribution Design	Narragansett Electric	DG	1	0	0
Distribution Design	Narragansett Electric	DG	1	0	0
Distribution Asset Management	Service Company	DG	1	0	0
Distribution Asset Management	Service Company	DG	1	0	0
Distribution Asset Management	Service Company	DG	1	0	0
Distribution Asset Management	Service Company	DG	1	0	0
Distribution Asset Management	Service Company	DG	1	0	0
Substation Engineering	Service Company	DG	1	1	1
Substation Engineering	Service Company	DG	1	1	0
Protection & Telecom Engineering	Service Company	DG	1	1	1
Protection & Telecom Engineering	Service Company	DG	1	1	1
Protection & Telecom Engineering	Service Company	DG	1	0	0
GIS Coordinator - Maps & Records	Service Company	DG	1	0	0
Maps & Records Technicians	Service Company	DG	1	0	0
Maps & Records Technicians	Service Company	DG	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Overhead Lines	Narragansett Electric	Electric	1	0	0
Underground Lines	Narragansett Electric	Electric	1	0	0
Underground Lines	Narragansett Electric	Electric	1	0	0
Underground Lines	Narragansett Electric	Electric	1	0	0
Underground Lines	Narragansett Electric	Electric	1	0	0
Substation Maintenance	Narragansett Electric	Electric	1	0	0
Telecom	Narragansett Electric	Electric	1	0	0
Telecom	Narragansett Electric	Electric	1	0	0
Protection Technician	Narragansett Electric	Electric	1	0	0
Protection Technician	Narragansett Electric	Electric	1	0	0
Protection Technician	Narragansett Electric	Electric	1	0	0
Customer Meter Services	Narragansett Electric	Electric	1	1	1
Customer Meter Services	Narragansett Electric	Electric	1	1	1
Customer Meter Services	Narragansett Electric	Electric	1	0	1
Customer Meter Services	Narragansett Electric	Electric	1	0	1
Customer Meter Services	Narragansett Electric	Electric	1	0	1
Customer Meter Services	Narragansett Electric	Electric	1	0	0
Customer Meter Services	Narragansett Electric	Electric	1	0	0
Customer Meter Services	Narragansett Electric	Electric	1	0	0
Customer Meter Services	Narragansett Electric	Electric	1	0	0
Customer Meter Services	Narragansett Electric	Electric	1	0	0
Total			**111**	**15**	**14**

PRE-FILED DIRECT TESTIMONY

OF

JOHN F. ISBERG

Dated: November 27, 2017

SUMMARY

John F. Isberg is Vice President, Customer Solutions for National Grid, and testifies regarding the Company's customer-focused proposals that seek to engage and educate all customers about National Grid programs and services available to them. The testimony has a particular focus on the Company's income-eligible customers, and efforts to engage these customers and increase their participation in the programs and services that are available to assist them in paying their utility bills. Specifically, he testifies regarding the Customer Affordability Program proposal which includes: expanding the use of Consumer Advocates by adding three additional Consumer Advocates to assist income-eligible customers in learning about, and signing up for, programs and services available to them; expanded income-eligible customer outreach and education; a Home Energy Monitoring Demonstration Project; an investment in income-eligible customer personalization tools in National Grid's Customer Contact Center; and expanded options through which residential customers may pay bills via cash payments without incurring payment fees. He also testifies in support of the Energy Innovation Hub, which is a community engagement destination in the Dunkin' Donuts Center in Providence focused on customer outreach and education on energy issues.

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I. Introduction and Qualifications

Q. Please state your full name and business address.

A. My name is John F. Isberg. My business address is 40 Sylvan Road, Waltham, Massachusetts 02451.

Q. By whom are you employed and in what capacity?

A. I am employed by National Grid USA Service Company, Inc. (Service Company), a subsidiary of National Grid USA (National Grid), and currently hold the position of Vice President, Customer Solutions. The Service Company provides engineering, financial, administrative, and other technical support to subsidiary companies of National Grid, including The Narragansett Electric Company d/b/a National Grid (the Company). My responsibilities include developing, implementing, and executing National Grid's energy efficiency programs and overseeing its economic and business development activities.

Q. Please provide a brief summary of your educational and professional background.

A. I earned a Bachelor of Science degree in Marine Engineering from Massachusetts Maritime Academy in 1987 and a Master of Business Administration from Rensselaer Polytechnic Institute in 1992.

Q. Have you testified previously before the Rhode Island Public Utilities Commission?

A. No. I have provided pre-filed direct testimony to the New York Public Service Commission on behalf of one of the Company's New York affiliates, Niagara Mohawk Power Corporation d/b/a National Grid, in the 2017 Niagara Mohawk Power Corporation Rate Case 17-G-0239.

Q. Would you please explain the naming conventions that you will be using in your testimony and associated schedules to identify the various entities involved in this proceeding?

A. Certainly. This proceeding is a ratemaking proceeding for the electric and gas distribution operations of The Narragansett Electric Company, which constitute the regulated operations that National Grid conducts in Rhode Island. In this case, I will refer to the regulated entity as the "Company," where the reference is to both electric and gas distribution operations on a collective basis. Where there is a need to refer to the "stand-alone" or individual electric or gas operations of The Narragansett Electric Company, I will use the terms "Narragansett Electric" or "Narragansett Gas," respectively, as appropriate. Where I refer to "National Grid USA," I will use the term "National Grid;" where I refer to "National Grid plc," I will use that specific term.

Q. Are you filing any schedules with your testimony?

A. Yes, I am filing the following schedules with my testimony:

- Schedule JFI-1: Summary of Value of Benefits Provided to Income-Eligible

Customers in Calendar Year 2016

- Schedule JFI-2: Consumer Advocate Job Description
- Schedule JFI-3: Customer Affordability Program Proposed Budget
- Schedule JFI-4: Energy Innovation Hub Proposed Budget

II. Purpose of Testimony

Q. What is the purpose of this testimony?

A. In this testimony, the Company is putting forward several customer-focused proposals that seek to inform income-eligible customers about the programs and services that are available to assist them in paying their utility bills and to engage these customers to increase their participation in them. The Company is concerned about the ability of income-eligible customers to pay their electric and gas bills, and recognizes that at times there have been challenges with successfully reaching out to income-eligible customers to encourage them to apply for rates and programs that can help them better afford and/or pay their energy bills. In an effort to remedy this situation and better meet the needs of income-eligible customers, the Company is proposing a Customer Affordability Program focused on this customer segment. To support the goal of providing affordable energy to Rhode Island customers over the long term, the Customer Affordability Program includes proposals to expand existing programs, as well as new cost-effective initiatives targeted to the income-eligible customer segment to enable them to more effectively manage their energy consumption and costs, consistent with the PUC's direction in its Report and Order No. 22851, at 25, issued on July 31, 2017 in Docket No. 4600.

Part of the Customer Affordability Program proposal includes expanding the use of Consumer Advocates by adding three additional Consumer Advocates to assist income-eligible customers. This proposal addresses the challenges that arise because customers in this segment tend to be among the most difficult to reach and engage. The Company currently has 1.0 of full-time equivalent (FTE) Consumer Advocate services to engage and serve income-eligible customers in Rhode Island by helping these customers take advantage of the programs available to them. The Consumer Advocate program has been successful in providing income-eligible customers with additional channels through which to engage with National Grid. The Consumer Advocates will be located in Providence and will spend much (or most) of their time in the field, at Community Action Program (CAP) agencies and locations, Customer Assistance Expos, and in other community-based settings developing better relationships and more efficient collaboration with local service agencies and directly with customers. An expansion of the Consumer Advocate program, and the addition of the other new or expanded programs and initiatives proposed in the Customer Affordability Program, are essential to allow the Company to reach the large number of income-eligible customers who still are not signed up for rates and programs for which they qualify. These programs benefit income-eligible customers by helping them to better afford their energy.

Additionally, in this testimony, the Company provides support for its Energy Innovation Hub (Hub), which is a 1,000 square foot community engagement destination in the Dunkin' Donuts Center located in downtown Providence. The Company continually

seeks ways to engage with its customers to help promote energy savings and opportunities to adopt innovative technologies to control energy costs. The Hub is focused on customer outreach and education on energy issues, with a goal of enriching customers' understanding of energy and the programs and options available to customers to help them manage their energy use. The Hub also serves as a convening space for groups and customers to discuss and increase customer focus on energy-related issues, and is closed to the general public one day per week to accommodate these meetings. The Hub was created after several Rhode Island state energy leaders visited a similar facility operated by the Company's electric affiliates in Massachusetts, the Grid Sustainability Hub in Worcester, Massachusetts. They then encouraged the Company to create a similar Hub in Rhode Island to promote the state's energy programs and progress toward a clean energy future. The Hub supports the goals of providing reliable, safe, clean, and affordable energy to Rhode Island customers over the long term; addressing the challenge of climate change and other forms of pollution; and prioritizing and facilitating increasing customer investment in their facilities where that investment provides recognizable net benefits.

III. Current Income-Eligible Customer Programs

Q. Please summarize the Company's approach regarding its current income-eligible customer programs.

A. The Company has demonstrated a longstanding commitment to programs for income-eligible customers and continues to work proactively to protect and support its most

vulnerable customers. The Company recognizes that its income-eligible customers face substantial and serious challenges in meeting their energy needs. Moreover, these customers are also the least likely to be well-positioned to take advantage of emerging options for residential customers, including implementation of distributed energy resources, community solar, and growth in the electrification of the transportation sector. As a result, the Company has devoted significant attention to the development of its income-eligible programs. The Company's income-eligible programs are intended to improve affordability, help reduce bill volatility, provide access to convenient options through which to pay bills, decrease the likelihood of arrears and terminations, and ensure that eligible customers are enrolled in programs offered by the Company.

Q. What programs does the Company currently offer to assist income-eligible customers?

A. The Company has a long history of providing support and assistance to income-eligible customers, including the provision of discounted residential electric rates to qualifying customers as far back as Company records are available.

The Company's current electric and gas income-eligible programs include: low income discount rates for eligible electric and gas customers; additional bill credits to customers receiving grants under the federal Low Income Home Energy Assistance Program (LIHEAP); access to Low Income Energy Efficiency Programs; an Arrearage Management Program for income-eligible customers who fall into arrears on their utility

bills; and the existing Consumer Advocate program. As low income rates differ for electric and gas customers, each is described separately below:

Income-Eligible Electric Customer Support: Eligibility for the electric Residential Low-Income Rate A-60 (Rate A-60) is based on either the customer of record or the principal wage earner in the household presently receiving Supplemental Security Income from the Social Security Administration, being eligible for LIHEAP, or being eligible for one of the following from the appropriate Rhode Island agency: Medicaid, Food Stamps, General Public Assistance or the Family Independence Program. Electric customers on Rate A-60 are not billed the customer charge assessed to customers on Residential Rate A-16 ($5.00 per month), and are assessed a base distribution energy charge that reflects a 36.8 percent discount ($0.02317 per kWh) as compared to the Rate A-16 base distribution energy charge ($0.03664 per kWh). The value of a customer's discount is dependent on customer-specific electric usage and the levels of rates Narragansett Electric assesses Rate A-60 customers as approved by the PUC during the year. Typical Rate A-60 discounts correspond to an effective ten-fifteen percent discount on a monthly electric bill.

Income-Eligible Gas Customer Support: The Company has a similar history of providing support to income-eligible gas customers, dating back to at least 1986 and the implementation of a state-sponsored Percentage of Income Payment Plan (PIPP) and arrearage forgiveness programs implemented under Docket No. 1725. In 2008,

Narragansett Gas proposed and the PUC approved residential low-income rates available to customers receiving LIHEAP grants. The subsidy for qualifying gas customers, whether on Rate 13 (residential heating) or Rate 11 (residential non-heating), takes the form of a ten percent discount on the monthly customer charge (from $13.00 per month under the non-discount Rate R12 (residential heating) and Rate R10 (residential non-heating) to $11.70 under the low-income rates classes), as well as a ten percent discount on per-therm base distribution rates.

In 2012, pursuant to a 2011 amendment to R.I. Gen. Laws § 39-1-27.12, the Company implemented a LIHEAP Enhancement Plan. This mechanism provides a bill credit to both gas and electric customers receiving a LIHEAP grant, funded annually at between $6.5 million and $7.5.million, through a per-bill surcharge assessed to all electric and gas customers not to exceed $10 per year per customer.

Today, direct income-eligible customer benefits for both electric and gas customers are funded through two sources:

Benefits Paid through Utility Rates: These benefits include: the value of the discount provided to customers taking the low-income rate, which is paid through base distribution rates of all other customers; the LIHEAP Match funded through base distribution rates (gas only); low-income weatherization support through base distribution rates (gas only); and the LIHEAP Enhancement Program. In total, during calendar year 2016, these

benefits totaled $14.5 million ($6.5 million to electric customers, $7.9 million to gas customers).

Benefits from External Sources: Additionally, qualifying customers in 2016 received a total of $9.8 million in federally funded LIHEAP grants, of which $8.8 million went to gas customers, and $1.0 million went to electric customers.

Accounting for both forms of support, income-eligible electric customers received a total effective support of approximately 19 percent of total billings, while income-eligible gas customers received support totaling approximately 80 percent. These support and funding levels are summarized in Schedule JFI-1, Summary of Value of Benefits Provided to Income-Eligible Customers in Calendar Year 2016, accompanying this testimony.

Q. What other types of programs does the Company currently offer to assist income-eligible customers?

A. The Company also offers access to an array of targeted income-eligible residential energy efficiency programs, including home energy assessment programs (lighting and appliance-focused, heating and weatherization-focused, and comprehensive-focused programs) and income-eligible multi-family residence programs. In the Annual Energy Efficiency Program Plan for 2017, the Company proposed using 13 percent of total

implementation funding for income-eligible electric programs, and 21 percent for income-eligible natural gas programs.

Additionally, in response to a 2016 amendment to R.I. General Laws § 39-2-1 and § 39-1-27.12, the Company implemented an Arrearage Management Program (AMP) beginning in September 2016. This program is designed to assist income-eligible customers in arrears on their utility bills through a structured program of arrearage forgiveness in exchange for customers staying current on go-forward charges.

The Company also offers budget billing, which helps customers by spreading their projected annual energy costs out into more predictable monthly payments. Additionally, the Company maintains a Consumer Advocate program to support income-eligible customers, and to work with the external social service and advocacy groups through which those customers often engage with the Company. Currently, the Company has the equivalent of 1.0 FTE of Consumer Advocate services for income-eligible customers. A more detailed description of the Consumer Advocate role, and the Company's proposed expansion of staffing levels for this role, are both provided in Section IV of this testimony.

Q. If income-eligible customers' accounts do go into collections, how does the Company assist income-eligible customer during the collections process?

A. The Company strives to inform income-eligible customers of programs available to assist them in paying their bills by using specially-trained employees who provide assistance to

the Company's most vulnerable customers throughout the collections process and who advise those customers of available assistance programs. The Company also provides training and tools to customer service representatives to prepare them to respond to customer bill inquiries in a knowledgeable, empathetic, and solution-oriented way. These efforts demonstrate the Company's continuing commitment to assist income-eligible customers in managing their arrears, which, in turn, helps minimize uncollectible expense.

Q. Will the Company explore other strategies to collect on accounts with arrears?

A. Yes. The Company is constantly exploring and evaluating strategies to collect on accounts with arrears.

Q. Why does the Company see a need to propose additional investment in its income-eligible customer programs?

A. As noted, the Company is concerned about the ability of income-eligible customers to pay their electric and gas bills. Despite current support and investments, the Company sees multiple opportunities to better engage and serve these customers:

- Demographic and census data suggest that as many as 100,000 households in Rhode Island have income levels that would qualify them for the various forms of state and federal assistance that, if the customer of record or the principal wage earner is the recipient of the benefits provided by these programs, would make them eligible for the Company's low-income electric rates. Despite this, the

Company averaged only 34,060 electric accounts and 18,634 gas accounts enrolled in these rates during the twelve-month period from July 2016 to June 2017.

- Despite being the customer segment most vulnerable to volatility in their energy bills, only approximately 20 percent of income-eligible accounts participate in Company-offered budget billing programs.
- In 2016, the Company's multi-family income-eligible energy efficiency program and single-family income eligible services energy efficiency program served 10,067 and 3,738 customers, respectively. The Company is planning for growth in participation in these programs in coming years, and believes that expanded participation in these programs is consistent with broader goals around increased energy affordability and decreased bill volatility.
- As of June 2017, nearly 60 percent of the Company's income-eligible customer accounts were in arrears. Despite representing only approximately ten percent of the Company's residential account base, these accounts represented over 40 percent of the Company's aggregate residential arrearages as of that same period.

Through the targeted investments identified in this testimony, the Company is aiming to secure a greater level of income-eligible customer engagement. Greater income-eligible customer engagement will lead to improved energy affordability and customer satisfaction among the income-eligible customer segment. Greater participation in existing programs will also help customers stay current on their utility bills and will drive improved income-eligible customer bill payment performance.

IV. Customer Affordability Program

Q. Please explain the Company's Customer Affordability Program proposal.

A. As described previously in this testimony, the Customer Affordability Program is a proposed Company initiative to invest in new programs and services for income-eligible customers, and to increase its investment in its current income-eligible customer offerings, to better support these customers' ability to manage their utility usage and pay their utility bills.

Q. Please summarize the proposed offerings that are part of the Customer Affordability Program.

A. The Company is proposing several areas of incremental expenditures related to the proposed Customer Affordability Program, both to expand existing programs and to create new initiatives, as follows:

- An investment in additional Consumer Advocates, who will be Company employees focused on helping income-eligible customers understand, enroll in, and benefit from the array of offerings available to them in support of managing the affordability and volatility of their utility bills.
- Expanded income-eligible customer outreach and education, with a goal of driving awareness of, and enrollment in, both low-income rates for which these customers may be eligible as well as income-eligible customer participation in the Company's budget billing program and targeted residential energy efficiency programs. The new Consumer Advocates also will conduct outreach to income-eligible customers on

these rates and programs, and will complement the program information that also will be made available through the Hub.

- A Home Energy Monitoring demonstration project, designed to determine whether providing income-eligible customers with detailed information about energy consumption outside of their standard monthly billing cycle can lead to decreased energy consumption, lower energy bills, and ultimately increased on-time bill payment.
- Enhanced analytics-driven "high bill likelihood" communications to income-eligible customers, including customized messaging for income-eligible customers enrolled in standard and budget billing programs. These communications will be designed to encourage sustained behavioral changes regarding energy efficiency activities by customers on budget billing, which should contribute towards reducing the likelihood and impact of large balances due after the budget billing period-end reconciliation processes.
- An investment in income-eligible customer personalization tools in the Company's Customer Contact Center, which will grant Company Customer Service Representatives enhanced software-based access to usage information about income-eligible customers at the time of contact, including tools to help Customer Service Representatives engage income-eligible customers in actionable, customer-specific high bill and on-line energy efficiency assessments.
- Expanded options through which residential customers may pay bills via cash payments without incurring payment processing fees.

- A proposal to change the manner by which the Company provides the bill discount for customers on its low-income rate classes, which is more fully described in the pre-filed direct testimony of Company Witnesses Scott M. McCabe and Ann E. Leary.

Q. What are the expected benefits of the Customer Affordability Program proposal?

A. The Company developed the portfolio of Customer Affordability Program proposals to address the needs of income-eligible customer on two dimensions – first, to help customers manage energy affordability through expanded awareness of, and access to, programs to help customers manage both the price and consumption components of their monthly energy spend, and second, to manage volatility through expanded uptake of budget billing and enhanced customer communications around monthly consumption patterns and impact on bills.

The Company anticipates that benefits to income-eligible customers will include greater participation in existing low-income rates and energy efficiency programs, reduced utility bills, reduced involuntary disconnections from service, increased on-time bill payment performance, and reduced costs from utility arrearage carrying costs, uncollectibles, customer service, and collection costs. The benefits of the Home Energy Monitoring Demonstration Project also will include innovation and knowledge spillover, from conducting a small-scale demonstration project that can inform potential larger deployments.

Consumer Advocates Proposal

Q. Please summarize the Company's proposal for additional Consumer Advocates.

A. The Company has a successful Consumer Advocates program through which the Company conducts outreach to and enrolls income-eligible customers in low-income rates and other energy-affordability programs to help these customers afford their energy bills. The Company has found this program to be successful in engaging income-eligible customers; however, there continue to be many income-eligible customers who are not enrolled in appropriate rates or programs available to them. This customer segment traditionally has been difficult to reach, and they are not always aware of the programs and rates available for which they may qualify. This leads to increased costs (borne by all customers) to serve this customer segment in the form of repeat calls into the Customer Contact Center, high arrearages, collections expense, write-offs, service terminations, and service restorations.

To better serve these customers, the Company is proposing to add three additional Consumer Advocates who will work directly with these customers to perform the following activities through sustained and direct community engagement:

- Quickly identify and enroll in the Company's income-eligible tariffs and other energy affordability-related programs those customers who, on the basis of their receipt of specified forms of public assistance, qualify for these discounted tariffs and other programs. Depending on a customer's individual circumstances, Consumer Advocates would offer customers information regarding Company

services such as low-income rates, budget billing, large-print billing, Braille billing, third-party notification, bill extensions, and energy-saving tips. They also identify if a protection should be placed on an account, and offer any other appropriate services from which the customers would benefit.

- Work closely with CAP agencies, and other low-income and senior citizen advocacy and service organizations, to ensure that income-eligible customers are fully utilizing the programs and services available to them both through the state and municipalities, as well as through the Company, to help customers manage their utility spend and stay current on their utility bills. CAP agencies are holistic organizations that provide multiple services to income-eligible customers. However, CAP agencies do not have access to the Company's databases or systems, or customer account information. Therefore, the Consumer Advocates serve as conduits between CAP agencies and the Company, enable the CAP agencies to more effectively deliver their services to income-eligible customers, and benefit customers by improving the process of working with the CAP agencies and receiving benefits more quickly. In addition to working with the CAP agencies, the Consumer Advocates will perform the other functions described in this testimony and in Schedule JFI-2.
- Serve as a liaison with the Company for a customer segment that has traditionally found it difficult to engage with the Company through more standard engagement channels, such as the Company's website or phone-based Customer Contact Center interactions.

The goal of these interactions is to reduce customer arrearages, collection efforts, and, ultimately, service terminations. The current job description for the Consumer Advocate role is provided as Schedule JFI-2 to my testimony.

Q. Why does the Company believe that adding an additional three Consumer Advocates is the appropriate number?

A. To arrive at the appropriate number of additional Consumer Advocates, the Company considered the large number of potential income-eligible customers who are not currently signed up for the Company's income-eligible programs and to whom the Company wishes to conduct outreach. With three additional Consumer Advocates, the Company will be better positioned to expand the work the Consumer Advocates perform with respect to income-eligible programs, such as by conducting more Expos and more in the field customer engagement. The Company currently has 1.0 FTE of Consumer Advocate services. By adding three additional Consumer Advocates, the Company will have one Consumer Advocate per two CAP agencies (as there are eight total CAP agencies in Rhode Island), which will allow the Consumer Advocates to more fully and better meet the needs of the clients of those CAP agencies.

Adding three additional Consumer Advocates can better help these customers take advantage of the programs available to them, and can increase the value of these other complementary investments, as follows:

- The Consumer Advocates will provide specialized tariff and program enrollment, engagement, and education services, tailored to specific customer needs. Although customers who receive LIHEAP assistance are automatically enrolled in eligible rates, there are many other income-eligible customers who qualify for these rates and who are not automatically enrolled. The Consumer Advocates will work toward enrolling all income-eligible customers for rates and programs for which they qualify.
- The Consumer Advocates will develop deep relationships with complementary service and advocacy organizations within the state, empowering those organizations to act as a conduit to income-eligible customers and as an extension of Company staff and resources in better serving those customers. Such organizations could include food banks, faith-based groups, municipal governments, groups that provide other donations to income-eligible customers, or other organizations.
- By establishing a more consistent physical presence in the community, the Company believes that dedicated Consumer Advocates can develop a deeper level of trust with income-eligible customers and complementary advocacy and service organizations, positioning the Company to more effectively (and at lower cost) address the needs of these customers on a more proactive basis.

Q. Where will the Consumer Advocates conduct their work?

A. The Company plans for the three additional Consumer Advocates to be based out of the Company's primary offices at 280 Melrose Street in Providence. As highlighted previously in this testimony, it is anticipated that the additional Consumer Advocates will

spend a significant portion of their time at various locations throughout the State to enhance the Company's visibility with customers and partners, and to provide one-on-one assistance to customers in need. The additional Consumer Advocates will work at various field locations, such as Customer Assistance Expos, CAP agency locations, job fairs, other unemployment locations, and in other community-based settings. For example, the Consumer Advocates will work with customers at the Customer Assistance Expos, which connect customers with resources they need all under one roof in one day, including assistance with payment agreements to avoid termination of service, and information on arrears management, fuel assistance funds, energy efficiency, budget billing, and low income rates. The Expos are pre-planned and occur eighteen times per year. Typically, each Expo is staffed with four to six Company employees.

Q. What work will the Consumer Advocates do when the CAP agencies are closed?

A. The Consumer Advocates will continue doing all of the work that they otherwise do and that will also already be part of their day to day work. This includes field-based work at other income-eligible customer advocacy and support locations, community outreach, Expos, customer support, and remote direct support for income-eligible customers from the Company's Providence-based locations.

Q. What is the cost of the three Consumer Advocates?

A. The Company proposes hiring two Consumer Advocates and one Senior Consumer Advocate. In total, the cost of the three hires will be $383,473 per year. The cost of

these hires is provided in Schedule JFI-3, Customer Affordability Program Proposed Budget, at Page 1, Line 10, and in the pre-filed direct testimony of Company Witness Melissa A. Little on Schedule MAL-1.

Customer Outreach and Education

Q. What incremental marketing, outreach, and education efforts are proposed as part of the Customer Affordability Program proposal?

A. The Company proposes a variety of new and enhanced targeted outreach and education tactics to reach those customers who are most likely to benefit from Company offerings for income-eligible customers. The Company plans to target both customers who are unaware that their financial situation makes them eligible for the low-income rates, as well as those already on these rates who may be struggling with their monthly expenses and as a result may be headed towards an arrears situation. Landlords of facilities serving income-eligible customers will also be a focus because, as property owners and managers, they are often responsible for instituting energy efficiency programs. The Consumer Advocates and the Hub will also be part of this outreach to income-eligible customers.

Q. Please discuss the effectiveness of current education and outreach efforts targeted towards the income-eligible customer segment.

A. To answer this question, the Company convened a series of nine focus groups in three regions during the weeks of March 13 and March 20, 2017. The Company collected

input from income-eligible customers through three separate sessions held in Woonsocket. During these sessions, participants reviewed communications materials that included a homeowner-directed brochure, emails, infographics, and a video.

Findings from these focus groups demonstrated that income-eligible customers were highly receptive to energy efficiency program information, especially if it was clearly branded as being from National Grid and relatively easy to access and digest.

In general, the Company's current income-eligible energy efficiency program communications were shown to have appeal and relevance to target customers (for homeowners, especially), but were viewed as relatively weaker in motivating action, across all segments. A focus of the incremental outreach investments proposed as part of this testimony will be on educating customers around and motivating specific actions that income-eligible customers can take as part of the Customer Affordability Program.

Q. Please elaborate on the specific additional types of outreach the Company intends to utilize.

A. Proposed outreach tactics have been developed based on the results of internal and third-party research about the most effective channels through which to reach and engage income-eligible customers. The Company also has proposed taking a holistic (i.e., multi-channel) approach to this engagement effort, recognizing that not all customers will be reachable through all channels. Specific tactics will include:

- Post cards – Four times per year, the Company will mail postcards to customers and/or landlords in the ten most populous low-income area zip codes as identified by Company review and analysis of customer data.
- Local newspaper advertising – Four times per year, the Company will place print ads in the local weekly papers serving the ten most populous low-income area zip codes.
- Outbound calling – The Company will initiate an outbound calling campaign that will coincide with first major cold snap of the heating season, targeted towards two classes of customers: customers already on an income-eligible tariff deemed most likely to benefit from budget billing and/or energy efficiency measures, and customers deemed most likely to be eligible for income-eligible tariffs even if they are not currently enrolled in an income-eligible tariff.
- Web/mobile banner advertising – Customer search preference insights and geo-targeting can be used to selectively target customers viewing certain web pages and mobile web sites.
- Local community presence – The Company will develop bus shelter advertising along with posters and/or literature to be available at check cashing locations and senior centers in select Rhode Island communities.
- CAP cooperative marketing – The Company will work with local CAP agencies to develop co-branded digital and direct mail outreach efforts. These agencies are expected to include a subset of the CAP agencies through which National Grid currently coordinates delivery of services to income-eligible customers, including: Blackstone Valley Community Action Program, Community Action Partnership of

Providence, Community Care Alliance, Comprehensive Community Action Program, East Bay Community Action Program, Tri-County Community Action Agency, and Westbay Community Action.

Q. Why is this level of outreach necessary?

A. The Company views this outreach as necessary for three reasons. First, despite demographic data that suggests that as many as 100,000 households in Rhode Island live at annual income levels that would likely qualify them for those forms of state assistance that would (subject to meeting the low income rate class requirements) make them eligible for these low income rates, the Company has averaged only roughly 52,000 unique accounts on either the Company's electric or gas low-income rate classes over the last year.

Second, while income-eligible customers are perhaps the customer class most likely to benefit from the bill volatility reductions associated with participation in a budget billing program, currently less than 20 percent of customers receiving service on a low-income rate class are enrolled in budget billing for that account. Third, in all cases, an increased investment in targeted outreach and education to these customers is key to enabling their participation in energy efficiency programs that can increase affordability and reduce bill volatility.

The proposed outreach and education tactics will provide numerous opportunities to deliver core messages via different channels. The Company views this targeted approach as appropriate given several specific attributes typical of the income-eligible customer community, including: potential lack of awareness of, and engagement around, energy issues and utility outreach; lower rates of technology adoption and traditional media consumption relative to general residential customer populations; and specific challenges related to reaching non-native English speakers.

Q. Will this outreach apply to both gas and electric customers?

A. Yes, these outreach and education efforts will be directed to both gas and electric income-eligible customers.

Q. How are these costs to be allocated across the Rate Year, Data Year 1, and Data Year 2?

A. This incremental outreach and education will cost $540,131 in the Rate Year, $540,141 in Data Year 1, and $115,131 in Data Year 2. Please see Schedule JFI-3, Pages 1 and 3, for additional details.

Q. Are these costs incremental to current efforts, or will the Company be stopping some outreach and replacing that with the current proposal?

A. This proposed effort is in addition to current outreach and education activities. These communications will target income-eligible customers directly with messages specific to

how the Company can assist them in ways that support the broader goals of the Customer Affordability Program.

Home Energy Monitoring Demonstration Project

Q. What will the Home Energy Monitoring Demonstration Project entail?

A. The Home Energy Monitoring Demonstration Project will entail installing home energy monitoring hardware devices in the homes of 100 of the Company's income-eligible electric customers who volunteer for the project. These customers will be recruited through various channels, focused on reaching a representative sample of income-eligible customers. Customers will be under no obligation to participate, and the Company will offer the project as a "no cost to them" optional benefit from the Company. After installation of these devices and provision of associated software tools, the Company will provide customers with access to granular, real-time information about their home energy consumption. Over the course of the ensuing year, customer energy consumption and on-time bill payment performance will be monitored for the treatment group receiving this information relative to both their own performance on these measures in preceding years as well as in comparison to a contemporaneous control group of similar income-eligible customers who will not receive home energy monitoring hardware or software. The Company will use the information gathered from this demonstration project to determine whether broader deployment of these or similar devices would benefit customers, reduce energy use, and be cost-effective.

Q. Will this outreach apply to both gas and electric customers?

A. No, this demonstration project will be targeted to just electric income-eligible customers.

Q. How are these costs to be allocated across the Rate Year, Data Year 1, and Data Year 2?

A. This demonstration project will cost $75,000 in the Rate Year, with no incremental cost in follow-on years. Please see Schedule JFI-3, Pages 1 and 4, for additional details.

Income-Eligible Customer Contact Center Personalization Tools

Q. What are the income-eligible personalization software tools that the Company seeks to institute in the Customer Contact Center?

A. The Company plans to deploy a third-party software based solution that will, for specific customer-facing National Grid staff, identify and flag Rhode Island low- and moderate-income residential customers, store relevant information to support enhanced service delivery to this customer segment, and provide staff with the information necessary to guide those customers to the most appropriate product or program offer given the specifics of their situation. In addition to enabling these more personalized Customer Contact Center interactions with customers, the solution will also inform proactive outbound customer communications through the previously identified campaign and digital outreach strategies.

Q. Will this outreach apply to both gas and electric customers?

A. Yes, this will be targeted to both gas and electric low- and moderate-income customers.

Q. How are these costs to be allocated across the Rate Year, Data Year 1, and Data Year 2?

A. This technology will cost $110,201 in the Rate Year, and $90,201 in Data Years 2 and 3. Please see Schedule JFI-3, Pages 1 and 7, for additional details.

Cash Payment Options

Q. What cash payment options for customers does the Company currently have?

A. Currently, all customers have the option of making cash payments towards their utility bill at one of 219 Western Union Authorized Payment Centers in Rhode Island. Customer payments received via these Authorized Payment Centers are credited to customer accounts within one to two business days.

Western Union Authorized Payment Centers are divided into two classes of locations – 78 "Standard Network" locations and 141 "Extended Network" locations. Customers making payments at Standard Network locations may do so without incurring any additional payment fees – the Company pays the $0.48 per transaction fee charged by Western Union at these locations, and the cost is recovered from all customers through base distribution rates.

Currently, customers making payments at Extended Network payment locations are charged an additional $1.25 per transaction fee. Although these Extended Network locations may evolve over time, they are currently located throughout the State and are most frequently co-located within financial services storefronts or within retail locations, including 71 Rite-Aid drug stores, 27 Stop & Shop grocery stores, and 24 Walgreens drug stores. These locations are well-represented in areas with significant concentrations of income-eligible customers, including Providence, Cranston, and Pawtucket, and feature convenient operating hours outside of standard business hours - in many cases, opening as early as 7:00 or 8:00 AM and staying open until 9:00 PM.

Q. How heavily are these Authorized Payment Centers utilized?

A. During 2016, customers made a total of 365,111 payments at Western Union Authorized Payment Centers. Extended Network Authorized Payment sites have only been available for use by customers since January 2017. In the period of time between the launch of this service and September 2017, a total of eleven payments were made at Extended Network locations.

Q. Why does the Company get charged for payments at Standard Network locations but customers get charged for payments at Extended Network locations?

A. This is a function of the Company's existing relationship with Western Union. The Extended Network Location options were only added in January 2017. As of that point in time, given Western Union's higher cost of providing this service at Extended

Locations, the Company agreed to a higher transaction fee at these sites and, without an existing mechanism to recover the costs associated with these transactions, elected to pass those fees along to those customers utilizing the service.

Q. What kind of expanded cash payment options for residential customers does the Company propose to implement?

A. Moving forward, to increase the range of cost-free locations available to customers to pay their utility bills, the Company proposes to pay for the payment fees currently paid by customers using Extended Network locations and to recover the cost of the payment fees from all customers, similar to the recovery of payment fees at Standard Network locations.

Q. How will this improve the cash payment options available to customers?

A. This proposal would increase the number of locations at which customers can make a fee-free, cash payment by 141 Authorized Payment Centers, including nearly doubling the number of locations in Providence (from 22 to 39) and significantly increasing the number of locations with extended hours.

Q. Why does the Company propose to make these Extended Network payment center options free for all customers, instead of limiting this option to income-eligible customers?

A. The Company considered limiting this option to income-eligible customers, but ultimately determined it to be impractical for several reasons:

- Western Union would currently have no ability to differentiate between customers making payments as income-eligible and not income-eligible, and would ultimately likely need to continue charging the transaction fee to all customers.
- In an approach where the income-eligible customer paid the payment fee and the Company credited this fee back to an income-eligible customer's account, the delay and potential for customer confusion around this option would likely serve as a deterrent to income-eligible customer utilization of the Extended Network locations.
- The Company is concerned that the cost to implement a bill credit reimbursing income-eligible customers for payment fees paid at an Extended Network location would more than outweigh the benefit to income-eligible customers of avoiding $1.25 per payment, especially in consideration of the uncertainty in the volume of transactions that would fall under this treatment. Therefore, by opening up to all customers the proposed treatment for all such payments the Company is able to avoid unnecessary changes to its billing system, and can pay for and recover the payment fees at Extended Network locations in the same manner as those associated with Standard Network locations.

Q. What will be the approximate incremental cost to all customers associated with socializing these Western Union Extended Payment Network fees?

A. The incremental cost of this program will depend upon the number of customers who take advantage of this service, as all incremental costs would be incurred on a per-transaction basis.

In 2016, a total of 365,111 payments were made via Authorized Payment Centers. On a going-forward basis, the Company has estimated that should customers not be subject to payment fees assessed at Extended Network Authorized Payment Centers, but rather these fees are charged to the Company, customer utilization of these sites will increase in proportion to their share of the overall population of Authorized Payment Centers. This would imply that 64 percent of going-forward Authorized Payment Center transactions will take place at Extended Network locations. On the basis of increased outreach associated with the availability of this service, the Company has also assumed that total utilization of Authorized Payment Centers will increase, at a rate of 15 percent per year. This would imply a total of approximately 235,071 transactions at Extended Network sites in the Rate Year, growing to approximately 270,332 transactions in Data Year 1, and approximately 310,882 in Data Year 2 At an incremental cost of $0.77 per transaction (the $1.25 fee currently borne by customers less the $0.48 that the company is already incurring at Standard Network locations), the estimated total costs of this expanded offering are $181,005, $208,156, and $239,379 respectively, in the Rate Year, Data Year 1, and Data Year 2.

Consumer Affordability Program Costs

Q. What are the costs associated with the proposed Customer Affordability Program efforts and how were they determined?

A. In total, Customer Affordability Program implementation, including the incremental Consumer Advocate costs, will cost approximately $1,289,810 in the Rate Year, $1,221,961 in Data Year 1, and $828,184 in Data Year 2. As shown in Schedule JFI-3, these costs are broken out by cost category. Broadly speaking, these costs will fall into the following areas:

- Three additional Consumer Advocates.
- One additional full time employee to direct the targeted customer outreach and education.
- Incremental outreach, education and marketing budget in order to drive increased awareness of and enrollment in income-eligible program offerings.
- Software purchase and implementation costs related to the deployment of a Customer Personalization Engine for use by Contact Center Customer Service Representatives.
- Demonstration project implementation and administration costs related to the deployment of a demonstration project of home energy monitoring equipment at 100 income-eligible customer sites in Rhode Island.

The Company arrived at these cost estimates through an internal process of estimating necessary marketing and outreach costs based on similar experiences in the past, as well

as through soliciting proposals from external vendors for those capabilities that will be implemented through third-party software and/or hardware.

Q. How will the costs of the Customer Affordability Program proposal be recovered?

A. The cost of the Company's Customer Affordability Program proposal has been incorporated into the Company's revenue requirement as a known and measurable adjustment, as reflected on Schedule MAL-1.

Other Programs to Benefit Income-Eligible Customers

Q. Is the Company proposing to implement any other programs to benefit income-eligible customers?

A. Yes. Elsewhere in its Power Sector Transformation in Rhode Island: National Grid's Vision and Implementation Plan testimony, the Company has proposed two additional initiatives that are designed to provide benefits to income-eligible customers:

- A Company-owned and -operated Community Solar program, providing income-eligible customers residing in multi-family affordable housing units in the state access to the pricing and environmental benefits realizable from participation in local community solar installations (please see the Company's Power Sector Transformation testimony, which discusses this program).
- A targeted oil-to-high efficiency electric heat conversion program, designed to facilitate reduced energy spend by income-eligible customers on home heating

needs (please see the Company's Power Sector Transformation testimony, which discusses this program).

V. Energy Innovation Hub Proposal

Q. Please describe the Company's Energy Innovation Hub Proposal.

A. The Hub is a community engagement destination designed to expand customer education and outreach, and to enrich customers' understandings of energy and the options available to them to manage their energy use. The space and its exhibits showcase: (a) energy solutions accessible to all customers; (b) innovative advancements for system reliability; and (c) a vision of a sustainable energy future. Visitors learn about technologies available to create smart, energy-efficient homes and businesses, renewable technologies, demand response, electric vehicles, storm management, and core services that the Company provides. The Company will maintain and update the materials on display in the Hub to provide customers with relevant and current information.

The Hub also is designed to serve as a convening space for groups to discuss and increase customer focus on energy-related issues. The Hub will be staffed Monday through Friday with one full-time equivalent and will also utilize six part-time interns from Rhode Island colleges or universities. The Hub also will be staffed during nights and weekends when large events are scheduled at the Dunkin' Donuts Center or Convention Center. The Hub staff will proactively promote the Hub to stakeholders and will work with schools to schedule field trips to the Hub.

Q. Why did the Company decide to create the Hub?

A. The Company continually seeks ways to engage with its customers to help promote energy savings and opportunities to adopt innovative technologies to manage energy costs. In 2016, as noted earlier in this testimony, several Rhode Island state energy leaders visited National Grid's Worcester, Massachusetts Sustainability Hub, which was developed as an educational center for the Worcester Smart Energy Solutions Pilot. The Company's Massachusetts affiliate built and operates the Sustainability Hub as part of its Smart Energy Solutions Pilot program, which was approved pursuant to the Green Communities Act in Massachusetts. The Green Communities Act required Massachusetts electric distribution companies to conduct smart grid pilot programs with specific goals, which included having time of use or hourly pricing for a least 0.25 percent of the company's customers, and reducing peak and average loads by at least five percent for actively participating customers. The Sustainability Hub is a key part of the customer outreach and education component of the Smart Energy Solutions Pilot, and was built to educate customers about the Pilot and the energy usage and distribution grid issues that the Pilot is trying to address. It also serves as a convening space for community groups, and by bringing these groups into the Sustainability Hub it helps to educate more customers about the Smart Energy Solutions Pilot. The Rhode Island state energy leaders encouraged the Company to develop a similar Hub in Rhode Island to promote the state's energy programs and progress toward a clean energy future.

In 2016, the Company initiated the process of developing the Hub, and the Hub has been operating since October 2, 2017, from 9:00 a.m. to 4:00 p.m.

Q. Why did the Company select the Dunkin' Donuts Center location for the Hub?

A. The Company considered several locations, including commercial real estate, college/university space, and Company-owned buildings. The Company selected the Dunkin' Donuts Center because it offers: (1) easy access and parking; (2) significant foot traffic during Dunkin' Donuts Center events, including a good traffic pattern and connectivity; (3) high visibility; (4) convenient access to public transportation; (5) opportunities for leveraging and fostering strategic partnerships with local colleges, universities, and businesses; (6) reasonable cost, size, and availability; and (7) natural daylight.

Q. What are the benefits of the Energy Innovation Hub?

A. The Hub provides a hands-on opportunity for customers to learn about energy efficiency, renewable technologies, electric vehicles, state energy goals, and a vision for a clean energy future. The Hub informs and empowers customers to take action to reduce their energy use and to understand and support their opportunities around renewable and electric vehicle technologies. The exhibits and content are designed to help customers make a connection to their own energy consumption as well as the energy goals and initiatives sponsored by the State and the Company. The Hub presents a dynamic opportunity for two-way communication with the community and has available meeting space for stakeholders. The meeting space accommodates ten to twelve people seated around a table, with a total of thirty chairs for additional people. Audio visual capabilities are available with a large monitor that connects to a computer and has

speakers. The Company is building a list of potential stakeholders including State agencies, non-governmental organizations, non-profits, industry, educational institutions, residents and local community groups to invite them to visit the Hub and utilize the space to host energy-related meetings. At this time the meeting space will be available on a first-come, first-served basis, and will not have a reservation fee.

The Hub serves both walk-in customers and those customers who are invited to the Hub through the proactive outreach of Company staff. The Company will work to encourage middle schools through graduate schools to bring students, teachers, and professors to the Hub to learn about energy issues. Programming for the school visits will vary, but may include information about energy efficiency, renewable energy, electric vehicles, clean energy future, energy-related policy, and community engagement.

The benefits that the Hub enables include: reduced energy supply costs (through customer education on energy efficiency and other programs that will reduce their supply costs); and direct participant/prosumer non-energy impact (qualitative) benefits; and consumer empowerment and choice.

Q. What information is provided at the Hub?

A. The Hub presents a sequential "story" of how a customer can learn about their electric and gas energy use, reduce their energy use, and incorporate renewable technology and/or electric vehicles. The messaging begins with the priority of achieving energy efficiency

before incorporating renewable technologies or additional energy load with electric vehicles. The exhibits within the Hub present information about the following topics:

- Energy efficiency (residential and commercial)
- Demand Response
- Renewable Technologies
- Electric Vehicles
- Clean Energy Future
- Rhode Island's Energy Goals

Access to online forms is available at the Hub so customers can register for energy programs. Printed marketing materials for the programs highlighted in the Hub are also available for customers.

Q. Please describe the information provided at the Hub in more detail.

A. The Hub has several different areas that guide a customer through the opportunities to improve their use of energy. These areas cover the following topics:

Energy Efficiency – A customer enters the Hub and is greeted by signs highlighting case studies of customers who have participated in energy efficiency programs and saved money. Next, customers can learn about how much energy is consumed by everyday appliances and electronics to demonstrate how they can modify their behavior to reduce energy consumption. Customers also can see examples of several high-efficiency products together with an explanation of the technology and available incentives to

educate them about energy efficiency programs to assist them in making an informed decision about whether and when to replace inefficient equipment with high-efficiency equipment. Local businesses that have participated in energy efficiency programs are highlighted in order to help other customers relate to businesses that have implemented energy efficiency and see the significant savings achieved. A large touch-screen allows customers to learn about the steps included in a no-cost home energy assessment, as well as about demand response and solar, and provides actionable steps for a customer to take to sign up for the programs.

ConnectedSolutions - The ConnectedSolutions program is a demand response program that automatically adjusts eligible Wi-Fi thermostats around periods of high energy demand to reduce the burden on the electric grid. The ConnectedSolutions program is presented as another way for customers to benefit from incentives to reduce their energy consumption and help Rhode Island reduce its peak energy load. Information about the program is displayed on a wall panel adjacent to a Wi-Fi thermostat and the high-efficiency equipment. Educational materials are available for customers to learn more about the program and the connection with energy efficiency, and electronic forms are available for customers to sign up for the program.

Renewable Technologies – The nation's first off-shore wind power system, the Block Island Wind Farm, is prominently displayed with a description of the project. Locations of Rhode Island's solar and wind installations are projected on a state map to provide

customers with insight into where renewable technology is being generated, and the magnitude of the generation. The Clean Energy Future section of the Hub also contains descriptions of energy generation from solar, wind, hydro, and landfill. There is also access for customers to explore the EnergySage online platform to view the potential solar generation available at their home or business, and to explore the on-line solar marketplace. The solar marketplace provides customers with a way to anonymously request bids from solar contractors, compare the bids, and then reach out to their preferred solar contractors for an actual bid. This online platform is a similar model to a travel company such as Expedia, where customers put in parameters to obtain flight choices, and then purchase a ticket.

Electric Vehicles - Electric vehicles are a key component of the future of clean energy. The electric vehicle exhibit includes a charging pump to help customers envision a pump at their home or business. A map of the dozens of electric vehicle charging locations in the state demonstrates the progress with creating the charging infrastructure to support the electric vehicle market, and the Clean Energy Future section of the Hub also depicts the future with electric vehicles for all transit - personal, commercial, and public transportation.

Clean Energy Future - The Clean Energy Future section presents a concept of what a community will look like in the future as programs and policies evolve to meet the state's greenhouse gas goals and clean energy goals. A clean energy future will consist of

electric vehicles, energy efficiency as a standard in residential and commercial markets, high-efficiency electric heating systems, integration of energy systems to create a smart energy system, and the generation of clean energy.

Rhode Island's Energy Goals - Rhode Island's energy goals of 38.5 percent of generation coming from renewables by 2015, an 80 percent reduction in carbon emissions by 2050, and 1000 megawatts of clean energy by 2020, are prominently displayed in the Clean Energy Future section as well as on a looping projection that shows the state's energy goals along with locations of solar and wind generation and benefits of energy efficiency. The staff at the Hub is well versed to help customers understand that the state does have published goals, and to describe how all the energy programs relate to achieving the goals.

Q. What are the costs for the operations of the Hub and how were they determined?

A. The estimated cost for the operation of the Hub is $375,000 per year. Operational costs include rent, labor, program materials, Wi-Fi, support for bus rental for school field trips, security for after-hours events, programming updates for exhibits, maintenance, and cleaning. The labor for the Hub will include a full-time equivalent staff member, and will also utilize six part-time interns from Rhode Island colleges or universities. In addition, education and communication costs will total $200,000 in the Rate Year, and $100,000 each in Data Year 1 and Data Year 2. In total, costs for the Hub will be

$575,000 in the Rate Year, $475,000 in Data Year 1, and $475,000 in Data Year 2. Schedule JFI-4, Energy Innovation Hub Proposed Budget, details these cost estimates.

Q. How will the cost of the Energy Innovation Hub be recovered?

A. The Company proposes to recover half of the total costs, or $237,500, through base distribution rates, and has sought to recover the other half of the costs, $237,500, through its Energy Efficiency Program Plan for 2018, which was filed November 1, 2017 in Docket No. 4755. None of the operational costs for the Hub are included in the test year (July 1, 2016 through June 30, 2017) for this filing.

Energy efficiency will be a part of every discussion with Hub visitors, and this supports 50 percent of the cost of its operations coming from energy efficiency funding. The subsequent conversations at the Hub focus on renewable technologies, electric vehicles, innovation, and state energy policies, which are outside the purview of energy efficiency and, therefore, cannot be paid for through energy efficiency funds. Thus, the Company is seeking rate-based funds for the other 50 percent of the Hub operational costs.

VI. Conclusion

Q. Does this conclude your testimony?

A. Yes, it does.

Schedules of
John F. Isberg

Index of Schedules

Schedule JFI-1

Schedule __ (JFI-1)

Summary of Value of Benefits Provided to Income-Eligible
Customers in Calendar Year 2016

Summary of Value of Benefits Provided to Income-Eligible Customers in Calendar Year 2016

	(a)	(b) Electric	(c) Gas	(d) Total
	Benefits Paid through Utility Rates			
(1)	Low Income Rate Subsidy in Base Rates	$ 6,446,255	$ 959,194	$ 7,405,449
(2)	LIHEAP Match (Gas Only) in Base Rates	$ -	$ 1,585,000	$ 1,585,000
(3)	LI Weatherization (Gas Only) in Base Rates	$ -	$ 200,000	$ 200,000
(4)	LIHEAP Enhancement (CY 2016)	$ 4,336,302	$ 2,306,744	$ 6,643,046
(5)	**Total Funding**	**$ 10,782,557**	**$ 5,050,938**	**$ 15,833,495**
	Benefits Received by LI Rate Customers in CY2016			
(6)	Low Income Discount	$ 5,401,975	$ 917,352	$ 6,319,327
(7)	LIHEAP Match (Gas Only)	$ -	$ 1,545,351	$ 1,545,351
(8)	LIHEAP Enhancement	$ 1,147,100	$ 5,479,800	$ 6,626,900
(9)	Total	**$ 6,549,075**	**$ 7,942,503**	**$ 14,491,578**
(10)	External Sources:			
(11)	LIHEAP Grant	$ 1,029,878	$ 8,770,148	$ 9,800,026
(12)	**Total Benefits**	**$ 7,578,953**	**$ 16,712,651**	**$ 24,291,604**
(13)	Annual Low Income Charges on Regular Residential Rate	$ 39,536,843	$ 21,021,473	$ 60,558,316
(14)	Total Benefits	$ 7,578,953	$ 16,712,651	$ 24,291,604
(15)	**Annual Low Income Billing After Benefits**	**$ 31,957,890**	**$ 4,308,822**	**$ 36,266,712**
(16)	**Effective Energy Cost (Low Income Billing ÷ Charges on Reg. Res. Rate)**	**80.8%**	**20.5%**	**59.9%**

THE NARRAGANSETT ELECTRIC COMPANY
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Schedule JFI-2

Schedule __ (JFI-2)

Consumer Advocate Job Description

Job Description
Consumer Advocacy

About the Position:

The Consumer Advocacy organization is where 'the rubber meets the road' with National Grid's income-eligible (low income) customer strategy. As a Consumer Advocate, you'll work directly with National Grid's most vulnerable customers and the various external support agencies and advocacy groups that support them. Your mission will be to improve the lives of these customers through driving awareness of, enrollment in, and engagement around the various tools National Grid has in place to help income-eligible customers manage the affordability and volatility of their monthly energy spend. You will also serve as the voice of these customers internally within National Grid, representing their interests, perspectives and needs as the organization continues to develop its strategies and approaches to better serving income-eligible customers and the programs and offers we put in place to do so.

Your success will be measured through the success of our low-income customers – by increasing the number of income-eligible customers enrolled in the various support programs available to them, through reducing their need to have repeated interactions with the Contact Center, and through helping them to stay current with their monthly bill and avoid the cycle of late fees, arrearages, collection efforts, and, ultimately, service terminations.

Position Responsibilities (including but not limited to):

- Manage and support income-eligible customers in need of assistance in their interactions with National Grid around energy bill subsidies (HEAP, utility bill discounts), payment support, or other income-eligible efficiency program offerings
- Develop relationships with internal and external stakeholders in order to obtain and share information on social care opportunities and developments, as well as provide technical advice and build bases of influence.
- Identify and act on new external channels through which to engage income-eligible customers and drive awareness of and participation in relevant Company programs
- Develop relationships with relevant external agencies and organizations (in particular, the Rhode Island Community Action Programs), establishing your role as these external groups' 'go to' resource for all things National Grid, and empowering them to better engage and refer their low-income constituents on our behalf
- Manage and prioritize referrals from email, vendors, the Contact Center, field and other internal communications in line with policies.
- Work with customers in a one-on-one setting for billing, payments, negotiating payment agreements, HEAP, outage preparation, protections certification, and energy efficiency support.
- Develop and manage the approach to special cases (e.g. customers with special needs) ensuring a tailored and effective response in line with expectations.
- Manage the day to day relationship with relevant internal parties and external agencies and

bodies in order to understand requirements, deliver appropriate, customized solutions and advice, and build cross-functional solutions working in line with National Grid policies and processes

- Through collecting and analyzing input from your customer interactions and community engagement, serve as the 'voice' of our income-eligible customers in helping to inform and influence the design of National Grid programs and offerings targeted towards the income-eligible community
- Serve as the public face of National Grid in various community outreach settings likely to be attended by income-eligible customers, including periodic Energy Expositions ("Expos") and the newly launched RI Energy Innovation Hub in Providence.
- Ensure current processes, practices and procedures are followed are in line with National Grid policies and compliant with legislation and regulations, while also driving opportunities to improve customer service delivery through identifying current process gaps and inefficiencies, and proactively suggesting paths to improving those situations
- Develop, distribute and prepare training material, brochures and supporting documentation to relevant customers and internal colleagues, including the development and delivery of training content in group setting in order to enable partner external agencies to better support National Grid's engagement of their constituencies
- Build upon technical/professional skills within consumer advocacy in order to continually grow your personal contribution to the business.
- Develop and utilize peer group network in order to absorb and apply technical/professional best practice within the consumer and social care arena.
- Prepare and write relevant documentation in order that all stakeholders are fully informed and all evidence or statistics are documented.
- Maintain and provide information such as regulatory information in order to ensure regulators and other stakeholders are kept up to date with relevant National Grid policies, processes and programs.
- Build upon technical/professional skills within own area of specialism or of other processes in order to continually grow your personal contribution to the business. (Develop relationships with internal and external stakeholders in order to obtain and share information that will benefit National Grid).
- Develop and maintain effective relationships with key stakeholders in order to share best practice provide technical advice and build bases of influence.
- Manage the day to day relationship with relevant internal parties or employees in order to understand their requirements, deliver appropriate, customized solutions and advice, and build cross-functional working in line with National Grid policies and processes.
- Translate business objectives into clearly defined business cases, annual plans and objectives in order to support achievement of departmental/operational area.
- Develop and utilize peer group network in order to absorb and apply technical/professional best practice within own area of specialism.
- Represent National Grid externally in formal agency hearings in order to defend and promote Company reputation and performance

Additional Responsibilities for Band E:

Band E employees are expected to deliver on the key accountabilities list above as well as those listed below.

- Monitor and manage personal work queue in the scope of a well defined Change Management process.
- Proactively research, produce, monitor and analyze cost, policy or other information to enable analysis of key themes and trends.
- Manage the day to day relationship with relevant internal parties or employees in order to understand their requirements, deliver appropriate, customized solutions and advice, and build cross-functional working in line with National Grid policies and processes.
- Develop and maintain effective relationships with key stakeholders in order to share best practice provide technical advice and build bases of influence.
- Manage the day to day relationship with contract or external service providers, including negotiation, interpretation and application of established contractual agreements and / or service level agreements to ensure adherence to standards and best outcomes for National Grid.
- Assist and coordinate work on projects by contributing to developing project standards and processes to improve project delivery within the relevant function.
- Keep up to date with market / regulatory developments within own profession / discipline in order to ensure the optimization of best practice for National Grid.
- Develop and maintain analytical systems, models and procedures in order to support design solutions and enhance time / consistency / safety / efficiency and operability.
- Challenge existing ways of working and continuously seek ways to do things better in order to drive greater efficiencies within assigned area.

Qualifications

Knowledge & Experience Required:

- A Bachelor's degree in a business, systems, or financial area or social or human services and up to 2 years of related experience, or equivalent work experience. An advanced degree / credits are desirable.
- Demonstrated success in a customer service setting, ideally in a position focused on working with low-income customers
- Knowledge and experience with (or the demonstrated ability to learn quickly about) one or more areas of the Company's customer information systems including CSS and CRIS, customer account management, financial structures, energy management, information systems management, document management
- Knowledge and experience with (or the demonstrated ability to learn quickly about) various forms of social service support programs available to the income-eligible community, and a demonstrated history of communicating complex program offerings to a diverse community of potential participants
- Bilingual English/Spanish preferred
- Knowledge of National Grid's business operations, Company policies and practices.

- Knowledge of relevant industry practice and legislation.
- Proficient in Microsoft Office products (Excel, Word, PowerPoint, Access).
- Skill in relational database querying techniques (SQL) desirable.
- Understanding of project management techniques and methods.
- Understanding of fundamental low income program concepts desirable.

This position is one of National Grid's career path roles which provide for promotional opportunities within and across salary bands as you develop and evolve in the position by gaining experience, expertise and acquiring and applying technical skills.

National Grid is an equal opportunity employer that values a broad diversity of talent, knowledge, experience and expertise. We foster a culture of inclusion that drives employee engagement to deliver superior performance to the communities we serve. National Grid is proud to be an affirmative action employer. We encourage minorities, women, individuals with disabilities and protected veterans to join the National Grid team.

Schedule __ (JFI-3)

Customer Affordability Program Proposed Budget

Customer Affordability Program Proposed Budget

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
		Investments											
		Rate Year			**Data Year 1**			**Data Year 2**			**Total - 3 Years**		
	Description	**Total**	**Narragansett Electric 50%**	**Narragansett Gas 50%**	**Total**	**Narragansett Electric 50%**	**Narragansett Gas 50%**	**Total**	**Narragansett Electric 50%**	**Narragansett Gas 50%**	**Total**	**Narragansett Electric 50%**	**Narragansett Gas 50%**
(1)	Targeted IE customer outreach / education												
(2)	Analyst (1 FTE)	$115,131	$57,565	$57,565	$115,131	$57,565	$57,565	$115,131	$57,565	$57,565	$345,392	$172,696	$172,696
(3)	Direct outreach expenditures (print/mobile, direct mail, outdoor, outbound call campaign)	$425,000	$212,500	$212,500	$425,000	$212,500	$212,500	$0	$0	$0	$850,000	$425,000	$425,000
(4)	**Subtotal**	**$540,131**	**$270,065**	**$270,065**	**$540,131**	**$270,065**	**$270,065**	**$115,131**	**$57,565**	**$57,565**	**$1,195,392**	**$597,696**	**$597,696**
(5)	Incremental Consumer Advocates (3 FTEs)												
(6)	1 Senior Consumer Advocate / 2 Consumer Advocates	$383,473	$191,737	$191,737	$383,473	$191,737	$191,737	$383,473	$191,737	$191,737	$1,150,420	$575,210	$575,210
(7)	**Subtotal**	**$383,473**	**$191,737**	**$191,737**	**$383,473**	**$191,737**	**$191,737**	**$383,473**	**$191,737**	**$191,737**	**$1,150,420**	**$575,210**	**$575,210**
(8)	Home Energy Monitoring Demonstration Project (All OpEx)		100%	0%		100%	0%		100%	0%			
(9)	Device Hardware Purchase Price	$30,000	$30,000	$0	$0	$0	$0	$0	$0	$0	$30,000	$30,000	$0
(10)	Device Installation Cost	$15,000	$15,000	$0	$0	$0	$0	$0	$0	$0	$15,000	$15,000	$0
(11)	Customer outreach/recruitment	$15,000	$15,000	$0	$0	$0	$0	$0	$0	$0	$15,000	$15,000	$0
(12)	Contact Center Customer Service Representative Training	$5,000	$5,000	$0	$0	$0	$0	$0	$0	$0	$5,000	$5,000	$0
(13)	Customer surveys, follow-up site visits	$10,000	$10,000	$0	$0	$0	$0	$0	$0	$0	$10,000	$10,000	$0
(14)	**Subtotal**	**$75,000**	**$75,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$75,000**	**$75,000**	**$0**
(15)	Contact Center Income-Eligible Personalization Software												
(16)	One-time setup fees	$45,101	$22,550	$22,550	$0	$0	$0	$0	$0	$0	$45,101	$22,550	$22,550
(17)	Recurring license fees	$45,101	$22,550	$22,550	$90,201	$45,101	$45,101	$90,201	$45,101	$45,101	$225,503	$112,752	$112,752
(18)	Internal IS implementation costs	$20,000	$10,000	$10,000	$0	$0	$0	$0	$0	$0	$20,000	$10,000	$10,000
(19)	**Subtotal**	**$110,201**	**$55,101**	**$55,101**	**$90,201**	**$45,101**	**$45,101**	**$90,201**	**$45,101**	**$45,101**	**$270,604**	**$135,302**	**$135,302**
(20)	Authorized Payment Center Fee Socialization (All OpEx)												
(21)	Extended Payment Center fees	$181,005	$90,503	$90,503	$208,156	$104,078	$104,078	$239,379	$119,690	$119,690	$628,540	$314,270	$314,270
(22)	**Subtotal**	**$181,005**	**$90,503**	**$90,503**	**$208,156**	**$104,078**	**$104,078**	**$239,379**	**$119,690**	**$119,690**	**$628,540**	**$314,270**	**$314,270**
(23)	**Summary**												
(24)	Total - One-time Costs	$140,101	$107,550	$32,550	$0	$0	$0	$0	$0	$0	$140,101	$107,550	$32,550
(25)	Total - Recurring Costs	$1,149,710	$574,855	$574,855	$1,221,961	$610,980	$610,980	$828,184	$414,092	$414,092	$3,199,855	$1,599,927	$1,599,927
(26)	**Grand Total**	**$1,289,810**	**$682,405**	**$607,405**	**$1,221,961**	**$610,980**	**$610,980**	**$828,184**	**$414,092**	**$414,092**	**$3,339,956**	**$1,707,478**	**$1,632,478**
(27)	**Average Recurring Costs**										**$1,066,618**	**$533,309**	**$533,309**

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Customer Affordability Program Customer Outreach and Education Budget (not including labor)

	(a) Item Description	(b) Annual Cost
(1)	Postcard development / mailing (4x per year)	$ 150,000
(2)	Print outreach in low-income area weekly newspapers (4x per year)	$ 65,000
(3)	Annual outbound calling campaign (1x per year)	$ 10,000
(4)	Digital (web/mobile phone) campaign (ongoing)	$ 40,000
(5)	Outdoor signs at key public transportation hubs (2x per year)	$ 125,000
(6)	Development / printing / distribution of CAP agency collaborative education materials	$ 25,000
(7)	Translation of selected materials into non-English language materials	$ 10,000
(8)	**Total Annual Cost**	**$ 425,000**

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Customer Affordability Program Home Energy Monitoring Demonstration Project Budget

	(a)	(b)	(c)
	Number units of home energy monitoring hardware devices	100	
	Item Description	**Unit Cost**	**Total Cost**
	Variable Costs		
(1)	Device Hardware Purchase Price	$ 300	$ 30,000
(2)	Device Installation Cost	$ 150	$ 15,000
	Fixed Costs		
(3)	Customer outreach/recruitment		$ 15,000
(4)	Contact Center Customer Service Representative Training		$ 5,000
(5)	Customer surveys, follow-up site visits		$ 10,000
(6)	**Total Cost (Rate Year)**		**$ 75,000**

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Consumer Affordability Program Outreach and Education Labor Budget

	(a)	(b)	(c)	(d)	(e)	(f)
(1)					Marketing Analyst	
(2)					Base Salary =	$74,639
(3)	Labor Burdens				Overhead	Calculated
(4)				Average	Rates	Overheads
(5)	National Grid USA Service Compa	B0022	401K Match Burden Thrift	6.75%	6.75%	$5,038
(6)		B0021	Group Insurance	1.00%	1.00%	$746
(7)		B0020	Healthcare	15.75%	15.75%	$11,756
(8)		B0005	Other Post Employment FAS 112 Benefits	0.50%	0	$0
(9)		B0003	Other Post Retirement FAS 106 OPEB	4.25%	0	$0
(10)		B0010	Payroll Taxes Burden	10.00%	10%	$7,464
(11)		B0001	Pension Burden	21.00%	0	$0
(12)		B0040	Time Not Worked	17.25%	0	$0
(13)		B0030	Variable Pay Management Incentive Comp	20.25%	20.25%	$15,114
(14)		B0031	Variable pay Non Management Gainsharing	3.75%	0	$0
(15)		B0050	Workers' Compensation Burden	0.50%	1%	$373
(16)	National Grid USA Service Company Total			112%	54%	$40,492
(17)	Salary					$74,639
(18)	Total Labor and Overhead Costs					$115,131

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Customer Affordability Program Consumer Advocates Labor Budget

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
(1)					Consumer Advocate		Senior Consumer Advocate	
(2)					Base Salary =	$74,639	Base Salary =	$99,327
(3)	Labor Burdens				Overhead	Calculated	Overhead	Calculated
(4)				Average	Rates	Overheads	Rates	Overheads
(5)	National Grid USA Service Company	B0022	401K Match Burden Thrift	6.75%	6.75%	$5,038	6.75%	$6,705
(6)		B0021	Group Insurance	1.00%	1.00%	$746	1.00%	$993
(7)		B0020	Healthcare	15.75%	15.75%	$11,756	15.75%	$15,644
(8)		B0005	Other Post Employment FAS 112 Benefits	0.50%	0	$0	0	$0
(9)		B0003	Other Post Retirement FAS 106 OPEB	4.25%	0	$0	0	$0
(10)		B0010	Payroll Taxes Burden	10.00%	10%	$7,464	10.00%	$9,933
(11)		B0001	Pension Burden	21.00%	0	$0	0	$0
(12)		B0040	Time Not Worked	17.25%	0	$0	0	$0
(13)		B0030	Variable Pay Management Incentive Comp	20.25%	20.25%	$15,114	20.25%	$20,114
(14)		B0031	Variable pay Non Management Gainsharing	3.75%	0	$0	0	$0
(15)		B0050	Workers' Compensation Burden	0.50%	0.5%	$373	0.5%	$497
(16)	National Grid USA Service Company Total			112%	54%	$40,492	54%	$53,885
(17)	Salary					$74,639		$99,327
(18)	Unit Labor and Overhead Costs					$115,131		$153,212

Total for 3 Full-Time Equivalents $383,473

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Customer Affordability Program Income-Eligible Personalization Software Budget

	(a)	(b)	(c)	(d)	(e)
(1)	**Residential accounts**		**MA***	**RI***	
(2)		**Gas**	825,472	242,469	
(3)		**Electric**	1,151,944	418,637	
(4)		**Total**	**1,977,416**	**661,106**	
(5)		**Pct**	75%	25%	
(6)	**Total license fees**	**$ 180,000**	**$ 180,000**	**$ 360,000**	**$ 360,000**
(7)			**Rate Year**	**Data Year 1**	**Data Year 2**
(8)	**Software Total**	**Pilot**	**ROY**		
(9)	License fees	$ 45,101	$ 45,101	$ 90,201	$ 90,201
(10)	Internal	$ 20,000	$ -	$ -	$ -
(11)	**Total**	**$ 65,101**	**$ 45,101**	**$ 90,201**	**$ 90,201**

*Software also to be used by the Company's Massachusetts affiliate and costs to be split proportionally between the Company and its Massachusetts affiliate

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Customer Affordability Program Authorized Payment Center Fee Socialization Budget

	(a)	(b)	(c)	(d)
(1)	2016 Authorized Payment Center (APC) Transaction Volume	365,111		
(2)	# of Standard Network APC sites in Rhode Island	78		
(3)	# of Extended Network APC sites in Rhode Island	141		
(4)	Share of Extended Network APC sites in Rhode Island	64%		
(5)	Standard Network Payment Fee	$ 0.48		
(6)	Extended Network Payment Fee	$ 1.25		
(7)	Transaction fee	$ 0.77		
(8)	APC Transaction Volume (Income-Eligible Only)	-		
(9)		**Year 1**	**Year 2**	**Year 3**
(10)	# of newly socialized fee customer transactions	235,071	270,332	310,882
(11)	Annual expense	$ 181,005	$ 208,156	$ 239,379
(12)	*Assumptions*			
(13)	Growth in payment center usage	n/a	15%	15%

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Schedule __ (JFI-4)

Energy Innovation Hub Proposed Budget

Rhode Island Energy Innovation Hub Proposed Budget

	(a)	(b)
	Rhode Island Energy Innovation Hub Operational Costs, Per Year	
(1)	Rent per year	$ 36,000
(2)	Experience Design (design agency) support for programming updates	$ 20,000
(3)	Maintenance	$ 1,500
(4)	Security	$ 4,608
(5)	Fire Protection	$ -
(6)	Cleaning	$ 3,000
(7)	WiFi - installation and monthly fee	$ 5,000
(8)	Interns	$ 129,600
(9)	Manager	$ 150,000
(10)	Outreach	$ 14,000
(11)	Equipment (office supplies)	$ 1,200
(12)	Travel	$ -
(13)	Miscellaneous	$ 2,500
(14)	Events (bus rental)	$ 7,350
(15)	**TOTAL**	**$ 374,758**

	Rhode Island Energy Innovation Hub Education and Communication Costs	
(16)	Rate Year	$200,000
(17)	Data Year 1	$100,000
(18)	Data Year 2	$100,000