

National Grid

The Narragansett Electric Company

**Electric Infrastructure,  
Safety, and Reliability Plan  
FY 2015 Proposal**

December 20, 2013

Docket No. 4473

**Submitted to:**  
Rhode Island Public Utilities Commission

Submitted by:  
The logo for National Grid, featuring the word "national" in a blue sans-serif font and "grid" in a bold, blue sans-serif font.



December 20, 2013

**VIA HAND DELIVERY & ELECTRONIC MAIL**

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

**RE: National Grid's Proposed FY 2015 Electric Infrastructure, Safety, and Reliability Plan  
Docket No. 4473**

Dear Ms. Massaro:

On behalf of National Grid,<sup>1</sup> I have enclosed ten (10) copies of the Company's proposed Electric Infrastructure, Safety, and Reliability Plan (the "Electric ISR Plan" or "Plan") for fiscal year 2015.<sup>2</sup> National Grid has developed this proposed Electric ISR Plan, which is designed to enhance the safety and reliability of the Company's electric distribution system. The proposed Plan was submitted to the Division of Public Utilities and Carriers ("Division") for review as required by law. The Company received and responded to discovery requests from the Division and has met with the Division's representatives regarding this proposed Plan. The Division has provisionally agreed to the overall spending portion of this plan, but will continue to review and discuss particular Plan provisions as the Commission conducts its proceeding in this matter. The Electric ISR Plan is designed to protect and improve the electric delivery system through repairing failed or damaged equipment, addressing load growth/migration, sustaining system viability through targeted investments driven primarily by condition, maintaining levels of inspection and maintenance, and operating a cost-effective vegetation management program. The Plan is intended to achieve these safety and reliability goals through a cost-effective, comprehensive work plan. The level of work that the Plan provides will sustain and enhance the safety and reliability of the Rhode Island electric distribution infrastructure and directly benefit all Rhode Island electric customers.

The Plan separates the general categories of work into discretionary and non-discretionary work, and it includes a description of the categories of work the Company proposes to perform in fiscal year 2015 as well as the proposed targeted spending levels for each work category. Along with this cover letter and a copy of the Plan, this filing includes the pre-filed direct testimony of four witnesses. Ms. Jennifer L. Grimsley and Mr. Ryan Moe introduce the Plan and describe the

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<sup>1</sup> The Narragansett Electric Company d/b/a National Grid (hereinafter referred to as "National Grid" or the "Company").

<sup>2</sup> The Electric ISR Plan is submitted in compliance with the provisions of R.I.G.L. §39-1-27.7.1.

Luly Massaro, Commission Clerk  
FY 2015 Electric ISR Plan  
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four witnesses. Ms. Jennifer L. Grimsley and Mr. Ryan Moe introduce the Plan and describe the Plan's large program components. Mr. William R. Richer sponsors the calculation of the Company's fiscal year 2015 revenue requirement under the Plan, which is found in Section 5 of the Plan. Ms. Nancy Ribot testifies regarding the calculation of the Electric Infrastructure, Safety and Reliability factors and charges proposed in this filing and provides the customer bill impacts of the proposed rate changes. For the average residential customer using 500 kWh per month, implementation of the proposed ISR factors will result in a monthly bill decrease of \$0.03, or 0.0 percent.

The Plan that the Company is submitting to the Commission for review and approval presents an opportunity to facilitate and encourage investment in our electric utility infrastructure and enhance its ability to provide safe, reliable, and efficient electric service to customers.

Thank you for your attention to this transmittal. If you have any questions, please contact me at (401) 784-7667.

Very truly yours,



Thomas R. Teehan

Enclosures

cc: Steve Scialabba, Division  
Greg Booth, Division  
Leo Wold, Esq.  
James Lanni, Division  
Al Contente, Division

**Testimony of  
Jennifer L. Grimsley &  
Ryan Moe**

**THE NARRAGANSETT ELECTRIC COMPANY  
d/b/a NATIONAL GRID  
R.I.P.U.C. DOCKET NO. 4473  
FY 2015 ELECTRIC INFRASTRUCTURE,  
SAFETY, AND RELIABILITY PLAN  
WITNESSES: JENNIFER L. GRIMSLEY AND RYAN MOE**

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**PRE-FILED DIRECT TESTIMONY**

**OF**

**JENNIFER L. GRIMSLEY**

**AND**

**RYAN MOE**

**December 2013**

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Ms. Grimsley, please state your name and business address.**

3 A. My name is Jennifer L. Grimsley. My business address is 40 Sylvan Road, Waltham,  
4 Massachusetts 02451.

5

6 **Q. Ms. Grimsley, by whom are you employed and in what position?**

7 A. I am employed by National Grid USA Service Company, Inc. (“Service Company”) as  
8 Director, Network Strategy, New England Electric. I am responsible for regulatory  
9 filings and regulatory compliance related to electric distribution operation of  
10 The Narragansett Electric Company d/b/a National Grid (the “Company” or “National  
11 Grid”). I am also responsible for those types of filings relative to National Grid USA’s  
12 electric distribution operations in Massachusetts.

13

14 **Q. Ms. Grimsley, please describe your educational background and professional  
15 experience.**

16 A. I graduated from Washington University in 1986, earning a bachelor’s degree in electrical  
17 engineering and from Rivier College in 1991, earning a master’s degree in business  
18 administration. In 1986, I began my engineering career as an associate engineer with  
19 Massachusetts Electric Company (“Mass. Electric”) in North Andover. In 1993, I was  
20 promoted to district engineering manager for Mass. Electric in Northampton, and have  
21 held various engineering and management positions since that time, including Project

1           Manager for the Reliability Enhancement Program in 2006. In 2007, I became Manager  
2           Asset Strategy and Policy and was responsible for developing the strategies to replace  
3           distribution assets. I was promoted to Director, Asset Strategy & Policy in 2008. In 2009,  
4           I became Executive Advisor to the Chief Operating Officer of Electricity Operations for  
5           National Grid USA. In 2011, I assumed my current role as Director, New England Electric  
6           Network Strategy.

7  
8   **Q.    Have you previously testified before the Rhode Island Public Utilities Commission**  
9           **(“Commission”)?**

10   A.    Yes. I have testified in previous Electric Infrastructure, Safety and Reliability (“Electric  
11           ISR”) proceedings Docket Nos. 4218, 4307, and 4382 and in the Rhode Island Contact  
12           Voltage Proceeding in Docket No. 4237.

13  
14   **Q.    Mr. Moe, please state your name and business address.**

15   A.    My name is Ryan Moe. My business address is 40 Sylvan Road, Waltham,  
16           Massachusetts 02451.

17  
18   **Q.    Mr. Moe, by whom are you employed and in what position?**

19   A.    I am employed by the Service Company as a Vegetation Strategist. I am responsible for  
20           supporting the design and long-term planning of vegetation strategies used on National

1 Grid USA's distribution and transmission assets. I have also provided support for  
2 regulatory reporting in Rhode Island since starting in my current position.

3  
4 **Q. Mr. Moe, please describe your educational background and professional experience.**

5 A. I graduated from the University at Buffalo with a bachelor's degree in Environmental  
6 Design in 2006. I began working for National Grid's Real Estate department in  
7 September 2008. My responsibilities included mapping the Company's property records  
8 along the transmission lines as well as analyzing vegetation management rights. In  
9 February 2012, I began working in my current position as a Vegetation Strategist.

10  
11 **Q. Have you previously testified before the Commission?**

12 A. No. However, I have represented National Grid in negotiation sessions for the FY 2015  
13 Electric ISR with the Division on forestry issues. I have also provided support for  
14 Electric ISR reporting since I began working for Vegetation Strategy.

15  
16 **II. PURPOSE OF TESTIMONY**

17 **Q. What is the purpose of this testimony?**

18 A. The purpose of this testimony is to present the plan developed by the Company and  
19 reviewed by the Rhode Island Division of Public Utilities and Carriers (the "Division")  
20 regarding the Company's proposed fiscal year ("FY") 2015 Electric ISR Plan (the

1 “Electric ISR Plan” or the “Plan”)<sup>1</sup>. As is described in the Plan document,  
2 implementation of the Electric ISR Plan will allow the Company to meet its obligation to  
3 provide safe, reliable, and efficient electric service for customers at reasonable cost. The  
4 proposed Electric ISR Plan document is Exhibit 1 to this testimony.

5  
6 **Q. Please summarize the categories of infrastructure, reliability, and safety spending**  
7 **covered by the Electric ISR Plan.**

8 A. The proposed Electric ISR Plan addresses the following budget categories for FY 2015,  
9 or the twelve-month fiscal year ending March 31, 2015: capital spending on electric  
10 infrastructure projects; operation and maintenance (“O&M”) expenses for vegetation  
11 management (“VM”); and O&M expenses for an inspection and maintenance (“I&M”)  
12 program. The Division has agreed to the spending portion of this plan and will continue  
13 to review particular plan provisions as the Commission conducts its proceeding in this  
14 matter.

15  
16 **Q. Please explain how the Electric ISR Plan is structured.**

17 A. The Electric ISR Plan, which is provided as Exhibit 1 to this testimony, encompasses the  
18 electric infrastructure, safety, and reliability spending plan for FY 2015, as well as an  
19 annual rate reconciliation mechanism that would provide for recovery related to capital

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<sup>1</sup> The Electric ISR Plan presented in this filing is the fourth annual plan submitted to the Commission pursuant to R.I.G.L. §39-1-27.7.1.

1 investments and other spending undertaken pursuant to the annual pre-approved budget  
2 for the Electric ISR Plan. The Electric ISR Plan itemizes the recommended work  
3 activities by general category and provides budgets for capital investment, as well as  
4 O&M expenses for a VM program and an I&M program. After the end of the fiscal year,  
5 the Company will true up the ISR Plan's projected capital and O&M expense levels used  
6 for establishing the revenue requirement to actual or allowed investment and  
7 expenditures on a cumulative basis and reconcile the revenue requirement associated with  
8 the actual investment and expenditures to the revenue billed from the rate adjustments  
9 implemented at the beginning of each fiscal year.

10  
11 **III. CAPITAL INVESTMENT PLAN**

12 **Q. How has the Company formulated the Capital Investment Plan for review by the**  
13 **Commission?**

14 A. The Company's FY 2015 Electric ISR Plan was prepared by the Company and submitted  
15 to the Division for review. The Company received and responded to discovery requests  
16 from the Division and had meetings and discussions with the Division's representatives  
17 and its consultants, Mr. Greg Booth and Ms. Linda Kushner, regarding this proposed  
18 Plan. The Division has agreed to the overall spending portion of this Plan and will  
19 continue to review particular Plan provisions as the Commission conducts its proceeding  
20 in this matter. In this filing, the Company is submitting a capital spending plan for FY  
21 2015 in the amount of \$65.9 million, encompassing a range of project work that is needed

1 to maintain safe and reliable service. The project work that is included in the Electric  
2 ISR Plan is specifically designed to meet system performance objectives and/or customer  
3 service requirements, which the Company must address as part of its public service  
4 obligation. In the Plan, attached as Exhibit 1, the Company has provided a detailed  
5 explanation of the categories of investment that it plans to undertake, the factors  
6 motivating the nature and amount of investment to be completed, and the specific  
7 projects that will be undertaken in Rhode Island.

8  
9 **Q. Please describe the categories of work activities that are included in the Electric ISR**  
10 **Plan to protect service reliability.**

11 A. The Company's overall objective in preparing the Electric ISR Plan is to arrive at a  
12 capital spending plan that is the optimal balance in terms of making the investments  
13 necessary to improve the performance of discreet aspects of the system, thereby resulting  
14 in maintaining the overall reliability of the system, while also ensuring a cost-effective  
15 use of available resources. Therefore, the Plan includes the capital investment needed to:  
16 (1) meet state and federal regulatory requirements applicable to the electric system; (2)  
17 repair failed or damaged equipment; (3) address load growth/migration; (4) maintain  
18 reliable service; and (5) sustain asset viability through targeted investments driven  
19 primarily by condition. These categories of investment constitute the core of work  
20 required for the Company to meet its public-service obligation in Rhode Island, and

1           therefore the Company has included these categories in its proposal to be approved by the  
2           Commission.

3  
4   **Q.   Please review the FY 2015 capital investment levels.**

5   A.   The investment levels proposed for recovery through the Electric ISR Plan for FY 2015  
6       are associated with five key work categories: Statutory/Regulatory, Damage Failure,  
7       System Capacity and Performance, Asset Condition, and Non-infrastructure. The Chart  
8       below summarizes the proposed spending level for each of these key driver categories  
9       proposed for FY 2015 as follows:

10  
11                           **Proposed FY 2015 Capital Investment by Key Driver Category**

<b>SPENDING RATIONALE</b>	<b>FY 2015 PROPOSED BUDGET</b>	<b>%</b>
Statutory/Regulatory	\$14,537,000	22%
Damage/Failure	\$9,816,000	15%
<i>Subtotal</i>	<i>\$24,353,000</i>	<i>37%</i>
Asset Condition	\$19,511,000	29%
Non-Infrastructure	\$277,000	1%
System Capacity and Performance	\$21,759,000	33%
<i>Subtotal</i>	<i>\$41,547,000</i>	<i>63%</i>
<b>Grand Total</b>	<b>\$65,900,000</b>	<b>100%</b>

12  
13           As shown in the chart above, a significant portion of the investment for capital projects in  
14       FY 2015 are necessary to meet regulatory obligations or to comply with various statutes,  
15       regulatory requirements or mandates (i.e. \$14.5 million, or 22 percent). These

1 investments arise from the Company’s regulatory, governmental, or contractual  
2 obligations, such as responding to new customer service requests, transformer and meter  
3 purchases and installations, outdoor lighting requests and service, and facility relocations  
4 related to public works projects requested by the Rhode Island Department of  
5 Transportation (“RIDOT”). For the most part, the scope and timing of this work is  
6 defined by others external to the Company.

7  
8 The need to repair failed and damaged equipment equates to approximately \$9.8 million,  
9 or 15 percent, of the Company’s investment. These projects are required to restore the  
10 electric distribution system to its original configuration and capability following damage  
11 from storms, vehicle accidents, vandalism, and other unplanned causes.

12  
13 The Plan designates the investment necessary to comply with statutory and regulatory  
14 requirements and to fix damaged or failed equipment as mandatory and “non-  
15 discretionary” in terms of scope and timing. Together, these items account for  
16 approximately \$24.4 million, or 37 percent, of proposed capital investment in FY 2015.  
17 Since the investments associated with these categories of work are non-discretionary,  
18 both in terms of timing and scope and are driven by forces outside the Company’s  
19 control, these categories of spending are subject to necessary and unavoidable deviations.  
20 As such, mandatory, or non-discretionary, capital investments are to be recovered  
21 through a capital rate adjustment mechanism that reconciles the plant in service amounts

1 associated with this projected spending to the lesser of actual plant in service or actual  
2 spending on a cumulative basis following the close of the fiscal year.

3  
4 The system capacity, asset condition, and non-infrastructure projects that the Company  
5 will pursue in FY 2015 have been chosen to maintain the overall reliability of the system  
6 and collectively amount to approximately \$41.5 million, or 63 percent of the Company's  
7 proposed FY 2015 capital investment. System capacity and performance projects are  
8 required to ensure that the electric network has sufficient capacity to meet the existing  
9 and growing and/or shifting demands of customers. Generally, projects in this category  
10 address loading conditions on substation transformers and distribution feeders to comply  
11 with the Company's system and capacity loading policy. These projects are designed to  
12 reduce the degradation of equipment service lives due to thermal stress and to provide  
13 appropriate degrees of system configuration flexibility to limit adverse reliability impacts  
14 of large contingencies.

15  
16 In addition to accommodating existing load and load growth/migration, the investments  
17 in this category are used to install new equipment, such as capacitor banks, to maintain  
18 the requisite power quality required by customers and reclosers that limit the customer  
19 impact associated with system events. This category also includes investment to improve  
20 the overall performance of the network that is realized by the reconfiguration of feeders  
21 and the installation of feeder ties. System capacity and performance projects account for

1 approximately \$21.8 million, or 33 percent, of the proposed capital investment in  
2 FY 2015. Projects necessary due to the poor condition of infrastructure assets account  
3 for about \$19.5 million, or 29 percent, of the proposed capital investment in FY 2015.  
4 These projects have been identified to reduce the risk and consequences of unplanned  
5 failures of assets based on their present condition. The focus of the assessment is to  
6 identify specific susceptibilities (failure modes) and develop alternatives to avoid such  
7 failure modes. The investments required to address these situations are essential, and the  
8 Company schedules these investments to minimize the prospect for reliability issues.

9  
10 Finally, the non-infrastructure category of investment represents those capital  
11 expenditures that do not fit into one of the foregoing categories, such as general and  
12 telecommunications equipment, but which are necessary to run the electric system. In  
13 total, capital investment for non-infrastructure projects will account for about \$277,000,  
14 or less than one percent of capital investment in FY 2015.

15  
16 **Q. Is the Company able to provide the Commission with detail on the specific projects**  
17 **that will be undertaken in each of the work categories covered in the Electric ISR**  
18 **Plan?**

19 A. Yes. In the Plan, the Company has provided detail on the specific projects within each  
20 work category that would be undertaken in FY 2015 as part of the Electric ISR Plan. The  
21 Company and the Division have reviewed these planned projects, as well as overall

1 spending levels, and have come to consensus as to the appropriate investment levels for  
2 FY 2015.

3  
4 **Q. Throughout the fiscal year, will the Company provide periodic updates regarding**  
5 **the various categories of capital work that are included in an approved Electric ISR**  
6 **Plan?**

7 A. Yes. The Company will provide quarterly reports to the Division and Commission on the  
8 progress of its Electric ISR Plan programs. Additionally, the Company will provide an  
9 annual report on the prior fiscal year's activities at the time it makes its reconciliation and  
10 rate adjustment filings. The Company and the Division are aware that in executing the  
11 approved Electric ISR Plan, the circumstances encountered during the year may require  
12 reasonable deviations from the original Plan. In such cases, the Company will include an  
13 explanation of any significant deviations in its quarterly reports and in its annual year-end  
14 report.

15  
16 **IV. VEGETATION MANAGEMENT PROGRAM**

17 **Q. Could you briefly review the FY 2015 spending levels for the Company's VM**  
18 **Program that have been identified by the Company and the Division as appropriate**  
19 **to maintain safe and reliable distribution service to customers?**

1 A. Yes. The VM Program that the Company has reviewed with the Division is carefully  
2 balanced to implement the program aspects to a degree and in a manner that will achieve  
3 the reliability benefits sought by the Company without unduly burdening customers.  
4 After discussion with the Division, the Electric ISR Plan allows for approximately \$7.7  
5 million in VM spending for FY 2015.

6

7 **V. INSPECTION AND MAINTENANCE PROGRAM**

8 **Q. Could you briefly review the FY 2015 spending levels for the Company's I&M**  
9 **Program that have been identified by the Company and the Division as appropriate**  
10 **to maintain safe and reliable distribution service to customers?**

11 A. The Electric ISR Plan incorporates the implementation of an inspection program for  
12 overhead and underground distribution infrastructure to achieve the objective of  
13 maintaining safe and reliable service to customers in the short and long term. The I&M  
14 Program is designed to provide the Company with comprehensive system-wide  
15 information on the condition of overhead and underground system components. The  
16 I&M program includes a component for a Contact Voltage Program as ordered in  
17 Docket No. 4237. This category also includes a component for a long-range system  
18 capacity load study as agreed to with the Division. The Company proposes a total I&M  
19 Program O&M expense budget of approximately \$3.0 million for FY 2015.

1 **VI. CONCLUSION**

2 **Q. In your opinion does the FY 2015 Electric ISR Plan fulfill the requirements**  
3 **established in relation to the safety and reliability of the Company's electric**  
4 **distribution system in Rhode Island?**

5 A. Yes. The Electric ISR Plan for FY 2015 is designed to establish the capital investment,  
6 VM, and I&M activities in Rhode Island that are necessary to meet the needs of its  
7 customers and maintain the overall safety and reliability of the Company's electric  
8 distribution system. The Electric ISR Plan was presented to the Division and reviewed  
9 with the Division and its expert advisor, Mr. Greg Booth of Power Services. Subsequent  
10 to this review, adjustments were made to the Electric ISR Plan in light of the Division's  
11 input, with the result being an optimal balance between system reliability and cost. In the  
12 end, the Commission's approval of the proposed FY 2015 Electric ISR Plan is essential  
13 to enabling the Company to maintain a safe and reliable electric distribution system for  
14 its Rhode Island customers.

15

16 **Q. Does this conclude this testimony?**

17 A. Yes it does.

**Exhibit 1 – JIG & RM  
Electric ISR Plan FY2015**

The Narragansett Electric Company  
d/b/a National Grid  
FY 2015 Electric Infrastructure, Safety, and Reliability Plan

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**FY 2015**  
**Electric Infrastructure, Safety, and Reliability Plan**

**Exhibit 1 – JLG & RM  
Section 1  
Intro. & Summary**

The Narragansett Electric Company  
d/b/a National Grid  
FY 2015 Electric Infrastructure, Safety, and Reliability Plan  
Section 1: Introduction and Summary

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## **Section 1**

Introduction and Summary

FY 2015 Electric ISR Plan

## **Introduction and Summary FY 2015 Proposal**

National Grid<sup>1</sup> has developed the following proposed fiscal year 2015 (“FY 2015”) electric Infrastructure, Safety, and Reliability plan (the “Electric ISR Plan” or “Plan”) in compliance with Rhode Island’s statute providing for an annual electric “infrastructure, safety, and reliability spending plan for each fiscal year and an annual rate reconciliation mechanism that includes a reconcilable allowance for the anticipated capital investments and other spending pursuant to the annual pre-approved budget.”<sup>2</sup> The proposed FY 2015 Electric ISR Plan addresses the following categories of costs as specified in R.I.G.L. §39-1-27.7.1(d): capital spending on electric infrastructure; operation and maintenance (“O&M”) expenses on vegetation management; O&M expenses on system inspection; and other costs related to maintaining safety and reliability of the electric distribution system, including a discussion of O&M inspection and maintenance costs associated with the Company’s Contact Voltage Detection and Repair Program (“Contact Voltage Program”), mandated by R.I.G.L. §39-2-25 and approved by the Commission in Docket No. 4237.<sup>3</sup>

The proposed Plan that the Company is submitting for its electric distribution operations is the product of a collaborative effort with the Rhode Island Division of Public Utilities and Carriers (“Division”). The Plan is designed to maintain and upgrade the Company’s electric

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<sup>1</sup> The Narragansett Electric Company d/b/a National Grid hereinafter referred to as “National Grid” or the “Company.”

<sup>2</sup> R.I.G.L. §39-1-27.7.1, An Act Relating to Public Utilities and Carriers – Revenue Decoupling.

<sup>3</sup> R.I.G.L. §39-2-25 (6)(c).

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d/b/a National Grid  
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delivery system through repairing failed or damaged equipment, addressing load growth/migration, sustaining asset viability through targeted investments driven primarily by condition, increasing levels of inspection and maintenance, and operating a cost-effective vegetation management program. The Company now submits this Plan to the Rhode Island Public Utilities Commission (“Commission”) for final review and approval.<sup>4</sup>

This Introduction and Summary presents an overview of the proposed FY 2015 Plan for the above-referenced categories of costs, a description of how the Company proposes to calculate a revenue requirement, a description of how the Company will calculate new rates, and customer bill impacts.

The Electric ISR Plan provides a description of the Company’s proposed electric distribution system safety and reliability activities along with its proposed investments and expenditures contained in the Plan for FY 2015. The proposed Plan itemizes the recommended work activities by general category and provides budgets for capital investment, as well as O&M expenses for a vegetation management program and an inspection and maintenance program.

Consistent with the statute, after the end of the fiscal year, the Company will true up the Electric ISR Plan’s projected capital and O&M levels used for establishing the revenue requirement to actual or allowed investment and expenditures, and reconcile the revenue requirement to the revenue billed from the rate adjustments implemented at the beginning of the fiscal year.

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<sup>4</sup> R.I.G.L. §39-1-27.7.1 (d) provides that the Company and the Division are to work together over the course of 60 days in an attempt to reach an agreement on a proposed plan, which would then be submitted for Commission review and approval.

The Narragansett Electric Company  
d/b/a National Grid  
FY 2015 Electric Infrastructure, Safety, and Reliability Plan  
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As approved in R.I.P.U.C. Docket No. 4218, the Company will continue to file quarterly reports with the Division and Commission on the progress of its Electric ISR Plan programs and when it makes its reconciliation and rate adjustment filing, it will file the annual report on the prior fiscal year's activities. In executing the Electric ISR Plan, the circumstances encountered during the year may require reasonable deviations from the original Electric ISR Plan. In such cases, the Company will include an explanation of any significant deviations in its quarterly reports and in its annual year-end report.

The FY 2015 levels of net capital investment, vegetation management O&M expense, and inspection and maintenance program O&M expense contained in the Company's proposed Plan are \$65.9 million<sup>5</sup>, \$7.7 million, and \$3.0 million, respectively.

The details of the remaining sections of this proposed Plan are as follows: Section 2 contains the Company's proposed capital investment plan for FY 2015; Section 3 contains the Company's proposed vegetation management program; Section 4 contains the Company's proposed inspection and maintenance program; Section 5 includes a description of how the Company has calculated the FY 2015 Electric ISR Plan revenue requirement; Section 6 includes a description of how the Company proposes to calculate proposed rates consistent with the final revenue requirement; and Section 7 provides the bill impacts associated with the proposed rates.

---

<sup>5</sup> Only the incremental amount of capital additions above the amounts included in rate base in Docket No. 4323 will be reflected in the revenue requirement calculation for ISR purposes.

## **Electric Capital Investment Plan**

The Company's proposed electric capital investment plan contained in Section 2 summarizes capital investments by key drivers, describes the development of the capital plan, and outlines the large programs and projects contained in the Plan. For purposes of the ratemaking treatment of capital spending, the Company proposes that capital investments used for establishing rates for FY 2015 be those investments in electric distribution infrastructure assets that are projected to be actually placed into service during the applicable fiscal year. The Company has used its capital budget to identify the relevant projects that would be part of the FY 2015 Electric ISR Plan and to provide its rationale for the need for and benefit of performing that work to provide safe and reliable service to its customers.

## **Vegetation Management**

Section 3 of this proposal contains the Company's vegetation management O&M expense for FY 2015 and a discussion of the nature of the work anticipated to be performed and the expected benefits. Under the Company's proposed plan, the O&M expense associated with vegetation management activities is the amount estimated to be expended for FY 2015. This estimated amount would be subject to true-up to actual vegetation management O&M expense.

### **Inspection and Maintenance Program**

The Company has also estimated the O&M expense associated with the inspection and maintenance program for FY 2015. Section 4 of this proposal provides details of the proposed inspection and maintenance program for FY 2015. As with the other projected spending provided in this proposed plan, this estimated amount will be subject to true-up to actual inspection and maintenance O&M expense.

### **Electric Revenue Requirement**

As noted above, Section 5 provides a description of how the Company proposes to calculate the revenue requirement based on the projected incremental net infrastructure investment and the total annual vegetation management and inspection and maintenance O&M. This section includes a description of the revenue requirement model that will be used to support the final revenue requirement. The calculation includes the pre-tax rate of return on rate base approved by the Commission in Docket No. 4323.

### **Rate Design**

Once the revenue requirement is calculated, it will then be appropriately allocated to the Company's rate classes. The rate design in this proposal is consistent with the Amended Settlement Agreement in Docket No. 4323, which the Commission approved on December 20, 2012. The rate design and a summary of proposed rates are presented in Section 6.

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d/b/a National Grid  
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The following provisions will apply for purposes of rate design:

- a. The adjusted revenue requirement associated with the incremental net capital investments will be allocated to rate classes based upon the allocation of rate base to each rate class as approved in the allocated cost of service in Docket No. 4323, the Company's general rate case. For non-demand-based rate classes, the allocated adjusted revenue requirement will be divided by the applicable fiscal year forecasted kWh deliveries for each rate class, arriving in a per-kWh factor unique to each rate class. For demand-based rate classes, the allocated adjusted revenue requirement will be divided by estimated billing demand based on a historical load factor applied to the applicable fiscal year forecasted kWh deliveries for each rate class, resulting at a per-kW factor unique to each rate class.
- b. The revenue requirement associated with the vegetation management and inspection and maintenance programs will be allocated to rate classes based upon the allocation of operations and maintenance expenses contained in the approved allocated cost of service in Docket No. 4323. For all rate classes except Rates B-62/G-62, the allocated revenue requirement will be divided by the applicable forecasted kWh deliveries for each rate class, arriving at a per-kWh factor unique to each rate class. For Rates B-62/G-62, the allocated revenue requirement will be divided

by estimated billing demand based on a historical load factor applied to the applicable forecasted kWh deliveries for each rate class, resulting in a per-kW factor for the rate class.

### **Bill Impacts**

The bill impacts associated with the proposed rates are presented in Section 7.



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## **Section 2**

Electric Capital Investment Plan

FY 2015 Electric ISR Plan

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**Electric Capital Investment Plan  
FY 2015 Proposal**

**Background**

The Company<sup>6</sup> developed its proposed Electric Capital Investment Plan to meet its obligation to provide safe, reliable, and efficient electric service for customers at reasonable costs. The plan includes capital investment needed to (1) meet state and federal regulatory requirements applicable to the electric system; (2) repair failed or damaged equipment; (3) address load growth/migration; (4) maintain reliable service; and (5) sustain asset viability through targeted investments driven primarily by condition.

As shown below in Chart 1, the Company met both its SAIFI and SAIDI performance metrics in Calendar Year (“CY”) 2012, with SAIFI of 0.90, against a target of 1.05, and SAIDI of 66.0 minutes, against a target of 71.9 minutes. The Company’s annual service quality targets are measured excluding major event days<sup>7</sup>. A comparison of reliability performance in CY 2012 relative to that of previous years demonstrates that the Company’s performance has shown a downward (improving) trend over the past several years with major event days excluded.

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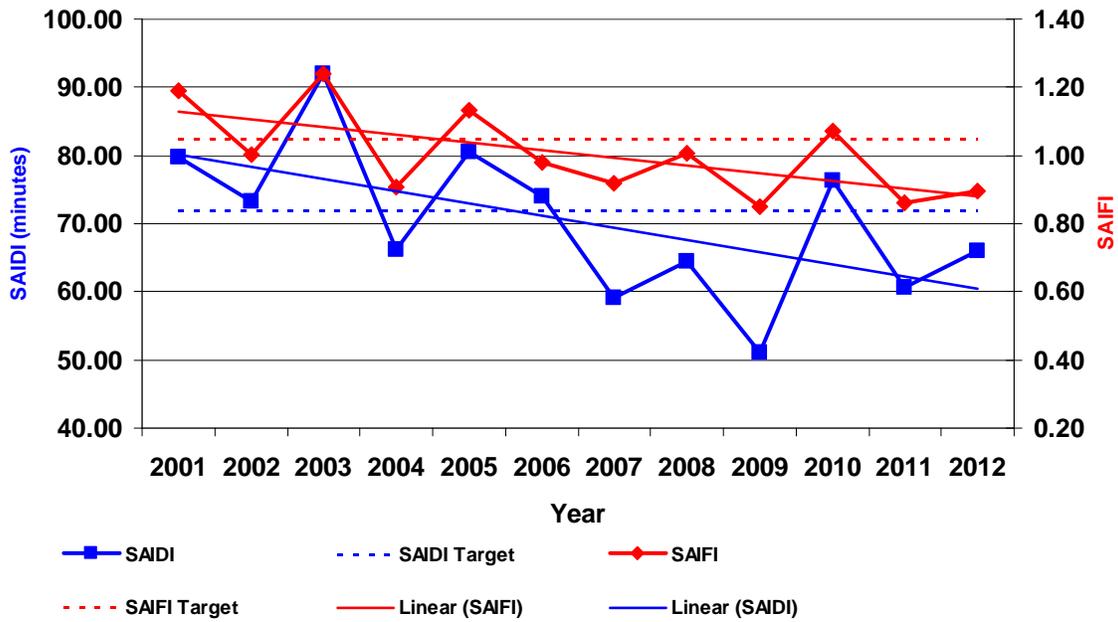
<sup>6</sup> The Company delivers electricity to 486,097 Rhode Island customers in a service area that encompasses approximately 1,076 square miles in 38 Rhode Island cities and towns. To provide this service, the Company owns and maintains 5,292 miles of overhead and 1,128 miles of underground distribution and sub-transmission circuit in a network that includes 98 sub-transmission lines and 400 distribution feeders. The Company relies on 66 substations that house 134 power transformers and 823 substation circuit breakers to deliver power to its customers. The Company’s electric delivery assets also include 281,125 distribution poles, 4,246 manholes and 64,611 overhead (pole-mounted) and underground (pad-mounted or in vaults) transformers.

<sup>7</sup> A Major Event Day (MED) is defined as a day in which the daily System Average Interruption Duration Index (SAIDI) exceeds a MED threshold value (4.97 minutes for 2012). For purposes of calculating daily system SAIDI any interruption that spans multiple calendar days is accrued to the day on which the interruption began. Statistically, days having a daily system SAIDI greater than the MED are days on which the energy delivery system experiences stress beyond that normally expected, such as during severe weather.

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Chart 1

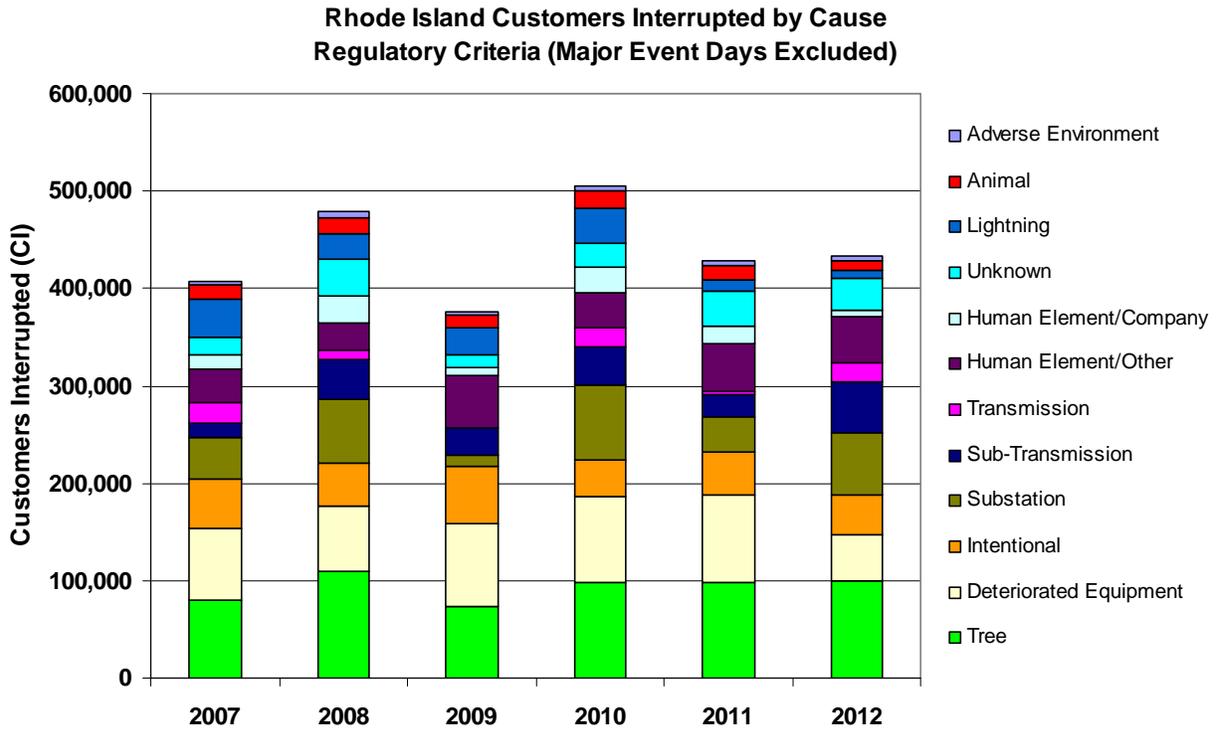
RI Reliability Performance  
Regulatory Criteria (Major Event Days Excluded)



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Still, reliability performance primarily depends on the stresses placed on the network from weather conditions and the ability of the system to tolerate those stresses. Chart 2 shows the customers interrupted by cause by year from 2007 through 2012. Chart 3 shows the same information in tabular form. For 2007 to 2011, trees and deteriorated equipment are the top two drivers affecting customers interrupted, and in 2012, trees and substation equipment are the top two drivers affecting customers interrupted.

**Chart 2**



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**Chart 3**

**Customer Interruptions by Cause (Major Event Days Excluded)**

Cause	Customers Interrupted (CI) (Major Event Days Excluded)					
	2007	2008	2009	2010	2011	2012
Adverse Environment	3,135	5,910	3,926	3,800	4,444	4,778
Animal	14,736	16,977	11,769	18,021	15,547	9,912
Deteriorated Equipment	73,807	67,114	85,047	87,768	89,743	47,301
Human Element/Company	15,056	28,298	8,450	26,047	18,455	7,043
Human Element/Other	34,511	27,607	54,275	36,999	48,650	47,404
Intentional	49,606	44,887	58,356	37,743	44,526	40,927
Lightning	37,854	25,987	27,874	36,859	11,044	9,362
Substation	43,636	65,704	10,713	77,189	37,086	63,397
Sub-Transmission	14,886	40,845	28,046	40,034	22,524	51,972
Transmission	20,176	8,721	25	18,438	2,973	19,099
Tree	80,256	109,214	74,116	97,807	97,485	100,459
Unknown	18,660	37,501	13,545	23,962	36,065	32,176
<b>Total</b>	<b>406,319</b>	<b>478,765</b>	<b>376,142</b>	<b>504,667</b>	<b>428,542</b>	<b>433,830</b>

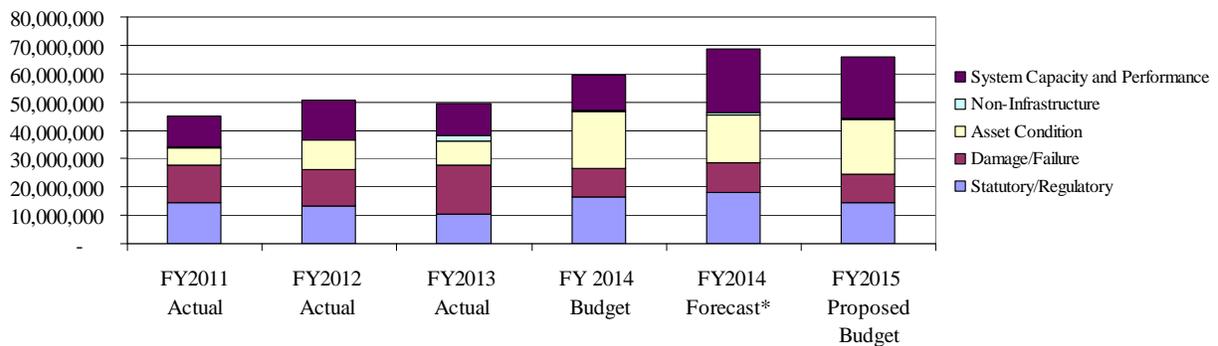
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It is, therefore, critical that the Company continue to invest in its infrastructure and Vegetation Management and Inspection and Maintenance programs to provide reliable electric delivery service to customers.

As shown in Chart 4, the Company plans to invest \$65.9 million to maintain the safety and reliability of its electric delivery infrastructure in FY 2015, covering the period from April 2014 through March 2015. Chart 5 shows the same information in tabular form. This spending level is approximately 10 percent higher than the Company’s budget of \$59.6 million for capital improvements on the Rhode Island network during FY 2014.

**Chart 4**

**Capital Spending by Category**



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**Chart 5**

**Capital Spend by Category**

SPENDING RATIONALE	FY2011 Actual	FY2012 Actual	FY2013 Actual	FY 2014 Budget	FY2014 Forecast*	FY2015 Proposed Budget
Statutory/Regulatory	14,631,341	13,075,000	10,410,223	16,509,000	17,909,000	14,537,000
Damage/Failure	13,194,101	12,993,000	17,515,452	10,050,000	10,689,000	9,816,000
Asset Condition	5,830,800	10,320,000	8,070,832	20,242,000	16,780,000	19,511,000
Non-Infrastructure	705,603	149,000	2,269,065	255,000	787,000	277,000
System Capacity and Performance	10,758,714	13,995,000	11,249,212	12,544,000	22,586,000	21,759,000
<b>Grand Total</b>	<b>45,120,559</b>	<b>50,532,000</b>	<b>49,514,784</b>	<b>59,600,000</b>	<b>68,751,000</b>	<b>65,900,000</b>

\* As provided in FY 2014 Electric ISR Plan Second Quarter Update, filed November 21, 2013.

Because a portion of the proposed capital spending in FY 2015 is for projects (mainly substation projects) that will be completed over multiple years, the Company anticipates that only part of that spending will be placed into service in FY 2015. Likewise, a portion of the capital to be placed in service in FY 2015 will also reflect the capital spending for similar multiyear projects that commenced in prior years.

Chart 6 below provides actual and forecasted Plant in Service from FY 2012, when the ISR was first implemented, through the proposed FY 2015 plan. In FY 2105, the plan calls for the following major substation projects to be placed in service: New Highland Drive, Langworthy, Eldred, and Johnston.

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**Chart 6**

SPENDING RATIONALE	FY2012 Actual Plant in Service	FY2013 Actual Plant in Service	FY2014 Proposed Plant in Service	FY2014 Forecasted Plant in Service*	FY2015 Proposed Plant In Service
Statutory/Regulatory	15,144,000	11,261,897	16,319,000	16,319,000	14,574,000
Damage Failure	13,628,000	12,172,707	9,977,000	9,977,000	10,921,000
Asset Condition	13,019,000	6,638,163	17,954,000	17,954,000	20,153,000
Non-Infrastructure	60,000	112,879	257,000	470,000	277,000
System Capacity and Performance	9,799,000	14,145,495	8,866,000	8,866,000	23,013,000
<b>Grand Total</b>	<b>51,650,000</b>	<b>44,331,141</b>	<b>53,373,000</b>	<b>53,586,000</b>	<b>68,938,000</b>

\* As provided in FY 2014 Electric ISR Plan Second Quarter Update, filed November 21, 2013.

**A. Summary of Investment Plan by Key Driver**

Chart 7 below summarizes the planned spending level for each of the key driver categories of the Electric ISR Plan proposed for FY 2015.

**Chart 7**

**Proposed FY 2015 Capital Spending by Key Driver Category**

SPENDING RATIONALE	FY 2015 PROPOSED BUDGET	%
Statutory/Regulatory	\$14,537,000	22%
Damage/Failure	\$9,816,000	15%
<i>Subtotal</i>	<i>\$24,353,000</i>	<i>37%</i>
Asset Condition	\$19,511,000	29%
Non-Infrastructure	\$277,000	1%
System Capacity and Performance	\$21,759,000	33%
<i>Subtotal</i>	<i>\$41,547,000</i>	<i>63%</i>
<b>Grand Total</b>	<b>\$65,900,000</b>	<b>100%</b>

As shown in Chart 7, 22 percent of the spending for capital projects in FY 2015 is necessary to meet regulatory obligations or to comply with various statutes, regulatory

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requirements, or mandates. Such investments arise from the Company's regulatory, governmental, or contractual obligations, such as responding to new customer service requests, transformer and meter purchases and installations, outdoor lighting requests and service, and facility relocations related to public works projects requested by cities and towns as well as the Rhode Island Department of Transportation ("RIDOT"). For the most part, the scope and timing of this work is defined by others external to the Company. These projects will account for approximately \$14.5 million of the proposed capital budget in FY 2015.

The need to immediately repair failed and damaged equipment equates to approximately \$9.8 million, or 15 percent, of the Company's investment. These projects are required to restore the electric distribution system to its original configuration and capability following damage from storms, vehicle accidents, vandalism, and other unplanned causes.

The Company considers the investment required to comply with statutory and regulatory requirements and to fix damaged or failed equipment as mandatory and "non-discretionary" in terms of scope and timing. Together, these items amount to approximately \$24.4 million, or 37 percent, of proposed capital investment in FY 2015.

The Company also has minimal discretion to address load constraints caused by the existing and growing and/or shifting demands of customers. Investments to address these issues account for 88 percent of the investment dollars categorized as system capacity and performance, or 33 percent of the proposed capital budget in FY 2015. These investments are required to ensure that the electric network has sufficient capacity to meet the existing and growing and/or

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shifting demands of customers and to maintain the requisite power quality required by customers. Generally, projects in this category address loading conditions on substation transformers and distribution feeders to comply with the Company's system and capacity loading policy and are designed to reduce degradation of equipment service lives due to thermal stress and to provide appropriate degrees of system configuration flexibility to limit adverse reliability impacts of large contingencies.

The Company has somewhat more discretion with regard to the timing of the other categories and closely monitors the risk associated with delaying such projects due to the potential impact of the consequences of the failure of equipment or systems. The reliability, asset condition, and non-infrastructure projects that the Company will pursue in FY 2015 have been chosen to minimize the likelihood of reliability issues and other problems due to under investment in the overall system.

Investments that are required to maintain reliable service to customers accounted for 12 percent of the system capacity and performance category or 4 percent of the total FY 2015 capital budget. This category includes investment to improve the overall performance of the network. These reliability enhancements include the expansion of the Company's remote monitoring and control capability, projects to storm harden areas that have experienced multiple interruptions, and smaller localized enhancements identified by our field operations personnel. Together with load relief projects, these performance projects amount to approximately \$21.8 million, or 33 percent, of network investment.

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Projects necessary based on the condition of the infrastructure assets account for \$19.5 million, or 29 percent, of the proposed capital spending in FY 2015. These projects have been identified to reduce the risk and consequences of unplanned failures of assets based on their present condition. The focus of the assessment is to identify specific susceptibilities (failure modes) and develop alternatives to avoid such failure modes. The investments required to address these situations are essential, and the Company schedules these investments to minimize the potential for reliability issues. Moreover, the large number of aged assets in the Company's service area requires the Company to develop strategies to replace assets if their condition impairs reliable, safe service to customers. Experience with assets that have poor operating characteristics in the field has led the Company to develop strategies to remove such equipment. The investments made in these assets are prioritized based on their likelihood of failure along with consequences of such an event.

The "non-infrastructure" category of investment is for those capital expenditures that do not fit into one of the aforementioned categories but which are necessary to run the electric system, such as general and telecommunications equipment. In total, capital spending for non-infrastructure projects will account for \$277,000 and less than one percent of capital spending in FY 2015.

**B. Development of the Annual Capital Plan**

Each year, the Company develops an Annual Work Plan designed to achieve its overriding performance objectives: safety, reliability, efficiency, and environmental

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responsibility. At the outset, the Annual Work Plan represents a compilation of proposed spending for programs and individual capital projects. Programs and projects are categorized by spending category: Statutory/Regulatory, Damage/Failure, System Capacity and Performance, and Asset Condition. The proposed spending forecasts for each program or project include the latest cost estimates for in-progress projects as well as initial estimates for newly proposed projects.

Once the mandatory budget level has been established for the Statutory/Regulatory and Damage/Failure spending rationales, programs and projects in the other categories (i.e., System Capacity and Performance and Asset Condition spending rationales) are reviewed for inclusion in the spending plan. A risk score is assigned to each project based upon the estimated probability and consequence of a particular system event occurring, including the impact on customers and the public. The project risk score takes into account key performance areas such as safety, reliability, and environmental, while also accounting for criticality. Plan inclusion/exclusion for any given project is based on several different factors, including, but not limited to: project new or in-progress status, risk score, scalability, and resource availability. In addition, when it can be accomplished, the bundling of work and/or projects is analyzed to optimize the total cost and outage planning. The objective is to establish a capital portfolio that optimizes investments in the system based upon the measure of risk or improvement opportunity associated with a project. Historical and forward looking checks are made by spending rationale to identify any deviations from expected or historical trends.

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The portfolio is presented to the Company's senior executives, approved by the Jurisdictional President for Rhode Island, and ultimately goes to the Board as part of the entire United States plan for review and approval. The budget amount is approved on the basis that it provides the resources necessary to meet the business objectives set for that year. Company management is responsible to manage to the approved budget.

The capital plan for FY 2015 presented herein represents the Company's best information regarding the investments it will need to make to sustain the safe, reliable and efficient operation of the electric system. As described above, some of the projects are already in progress or soon to be in progress. Estimates for those projects are quite refined. Other projects are at earlier stages in the project evolution process. The budgets for those projects are accordingly less refined and are more susceptible to change. The plan is continuously reviewed during the year for changes in assumptions, constraints, project delays, accelerations, outage coordination, permitting/licensing/agency approvals, system operations, performance, safety, and customer driven needs that arise. The plan is updated accordingly throughout the current year.

As stated above, the result of the budgeting process is the approval of a total dollar amount for capital spending in the budget year. In addition to this planning and budgeting process, specific approval must be obtained for any strategy, program, or project within the Annual Work Plan. Approval is obtained through a "Delegation of Authority" ("DOA") requirement prior to proceeding with project work, including engineering and construction. Each project must receive the appropriate level of management authorization prior to the start of any

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work. Approval authority is administered in accordance with the Company's DOA governance policy, with projects over \$1 million requiring a Project Sanction Paper ("PSP"). A PSP is written by the sponsor and details many aspects of the project including:

- Project background, description and drivers
- Business issues and the analysis of alternative courses of action
- Cost analysis of the proposed project
- Project schedule, milestones, and implementation plan

Once an approved project (greater than \$1 million) is completed, the project manager is responsible for preparing closure papers, which present information on a number of factors including a discussion of whether and to what extent project deliverables were achieved and lessons learned as a result of project implementation.

Projects under \$1 million are authorized online and the project sponsor must provide relevant information regarding the cost and justification of the proposed project.

Capital projects are authorized for construction following preliminary engineering. Reauthorization is required if the project cost is expected to exceed the approved estimate plus an approved variance range identified in the project spending plan. Any reauthorization request must include original authorized amount, the variance amount, the reasons for the variance and the details and costs of the variance drivers, as well as the estimated impact on the current year's spending. Project spending is monitored monthly against authorized levels by the project management and program management groups. Exception reports covering actual or forecasted

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project spending greater than authorized amounts are reviewed monthly. The Company includes certain reserve line items in its spending plan, by budget category, to allocate funds for projects whose scope and timing have not yet been determined. In such cases, historical trends are used to develop the appropriate reserve levels. The majority of projects that are emergent are the result of in-year occurrences in mandatory, or “non-discretionary”, project categories such as damaged or failed equipment, customer or generator requirements, or regulatory mandates. The Company manages budgetary reserves and emergent projects within the overall budget as part of its investment planning and current year spending management processes.

**C. Description of Large Programs and Projects**

Attachment 1 to this section provides program and project detail on major projects that supports the proposed level of capital spending by key driver shown on Chart 7. Attachment 2 contains a more detailed breakdown of the spending totals by project to the extent that such detail is available at the present time and the risk score associated with the project.

**i. Statutory/Regulatory**

As shown in Attachment 1, the Company has set a budget of \$14.5 million to meet its Statutory/Regulatory requirements in FY 2015. This is approximately 12 percent lower than the FY 2014 budget of \$16.5 million.

Approximately 47 percent of the Statutory/Regulatory budget is required to establish electric delivery service to new customers. The Company currently expects to spend

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approximately \$6.8 million for this category in FY 2015. It is important to note that the actual and proposed spending in this category is net of contributions in aid of construction that are received from customers.

Required spending for public projects is expected to remain consistent with recent spending levels. These categories include such projects as:

- Relocating/adding company assets due to road or bridge-work
- Moving assets such as poles to accommodate a new driveway or other similar customer requests
- Construction as requested by the telephone company, public authorities, towns, municipalities, RIDOT, and other similar entities
- Required environmental expenditures

The budget for FY 2015 includes \$255,000 for manhole and duct infrastructure installation in coordination with RIDOT's construction of new roads in the vicinity of the I-195 relocation for Contracts 14 and 15. The schedule for this work is determined by the RIDOT, and is currently underway in FY 2014.

Because much of this construction work is variable and requested on short notice, the Company must set a budget based on previous experience since it does not yet have the project detail. Since the Company gets reimbursed for a portion of this spending (especially for work

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requested by the RIDOT), the budget placeholder represents the capital expected to be spent, net of reimbursements.

The Company expects that it will need to spend at approximately the same level as in recent years to facilitate third-party attachments. Spending to enable third-party attachments is highly variable year-to-year based on the timing of contributions from third parties and the cost to make sure that the Company's assets meet the standards required to enable the attachments. The latter is not reimbursed by third party customers and as such may increase the balance spent within this category.

**ii. Damage/Failure**

The Company is proposing a \$9.8 million budget for FY 2015 for non-discretionary costs to replace equipment that unexpectedly fails or becomes damaged. This is approximately 3 percent less than the \$ 10.1 million budget for FY 2014. Because the work in this category is unplanned by nature, the Company sets this budget based on multi-year historic trends. A portion of the damage/failure budget allows for larger project work that will arise within the current year as well as carryover projects from the prior fiscal year where the final restoration of the plant-in-service will not be complete until FY 2015 (e.g. failed substation transformer). As in FY 2014, the budget set for FY 2015 also includes capital spending to address issues that have been identified for immediate repair as part of the inspection and maintenance program as described in Section 4.

The damage/failure portion of the Company's capital plan has three major components:

- **Damage/Failure Blanket Projects** – For relatively small failures within substation or line or those whose size is unknown at the time of the failure. The budget for FY 2015 is built on the assumption of flat failure rates along with inflation assumptions.
- **Damage/Failure Reserve for Specific Projects** – A reserve to address larger failures that require capital expenditures in excess of \$100,000. The reserve is built on recent historic trends of such items and allows the Company to complete unplanned work without having to halt work on projects that are planned to stay on target with the overall capital budget.
- **Major Storms** – Each year the Company carries a budgeted project for major storm activity that affects the Company’s assets. While the actual spend in this category may vary greatly, this reserve, based on average trends over the past several years, allows the Company to avoid removing other planned work from the capital program when replacement of assets due to weather is required.

**iii. Asset Condition**

The Company is proposing to spend \$ 19.5 million in FY 2015 to replace assets that must be replaced to maintain reliability performance. This level is 3 percent lower than the FY 2014 budget of \$ 20.2 million. The key drivers are as follows:

**URD Cable Strategy** - This strategy applies to Underground Residential Development (URD) and Underground Commercial Development (UCD) cables sized #2 and 1/0 and does not apply to mainline or supply cables. It sets forth the approach for replacing or rehabilitating (through cable injection) these cables. This strategy supports the current method for handling cable failures by fixing immediately upon failure and offers options for managing cables that have sustained multiple failures. Although, interruptions on #2 and 1/0 cables do not significantly influence Company level service quality metrics, they can have significant localized impacts on affected neighborhoods. For URDs with at least three cable failures within the last three years, two options are considered for addressing repeated failures: cable rehabilitation through insulation injection or cable replacement. Insulation injection is identified as the preferred solution for direct buried Cross Linked Polyethylene (XLPE) cables in a loop fed arrangement. The overall condition of the primary and neutral cables and installation specifics will determine if insulation injection is a viable option. The Company proposes to spend approximately \$3.2 million to continue to implement this strategy in FY 2015.

**Underground Cable Strategy** - The goal of this strategy is to replace primary underground cable that is in poor condition or has a poor operating history. The Company's present underground cable replacement program is a mixture of reactive "fix on fail" replacement in the Damage/Failure spending rationale and proactive replacement in the Asset Condition spending rationale based on type of construction, asset condition,

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and failure history for a specific asset and similar assets. Reactive “fix on failure” replacement, which the Company considers mandatory spending, often evolves into proactive replacement of an entire circuit or a localized portion of a circuit, which is considered discretionary spending. Discretionary spending for proactive replacement can be further categorized by that work justified by the need to eliminate repeated in-service failures, work justified by anticipated end-of-life based on historic performance or industry experience, and work made necessary by other operational issues. Candidate projects are reviewed and re-prioritized throughout the year as required by changing system needs and events. Examples of distribution cables currently being planned for replacement include the 1103, 1109 A&B, and 1113 cables. The Company proposes to spend approximately \$985,000 to continue to implement this strategy in FY 2015.

**Strategy to Replace Distribution Substation Batteries** - The Company has more than 80 battery systems in its distribution substations and these systems play a significant role in the safe and reliable operation of substations. The batteries and chargers in these systems provide DC power for protection, control, and communications within the substation and between substations and control centers. One goal of the Company’s strategy is to replace batteries that are 20 years old or older. Another goal of the strategy is to ensure that battery systems meet the current operating requirements and perform their designed function. The Company proposes to spend \$ 250,000 in FY 2015 to implement this strategy.

**The Substation Metalclad Switchgear Replacement Strategy and Program** - This program is another important strategy to improve the reliability of substations. This strategy addresses switchgear that have known operating issues or are of the same type and manufacturer as equipment that has failed at another location. Solutions typically include replacement of the equipment. In some cases, system configurations allow load to be transferred from these stations in a cost effective manner, allowing the metalclad equipment to be retired and removed. Presently there are 46 metalclad switchgear in Rhode Island operating between 4kV and 23kV. Of the 46 units, 36 units were installed prior to 1979. Several design factors with older vintage metalclad substations contribute to bus failures or component failures.

These factors include:

- Moisture Sealing Systems - Moisture and water contribute to most of the failures of metalclad switchgear, substations, and busses. Gaskets and caulking of enclosures deteriorate over time allowing rain and melting snow to enter.
- Ventilation - Metalclad interiors can reach high temperatures in the summer even if ventilation systems are working correctly. High temperatures degrade the lubrication in breaker mechanisms and other moving parts and can cause failure of electronic controls and relays.
- Insulation - Voids in insulation, which eventually lead to failure of the insulation when stressed at high voltages, are apparent in earlier vintage switchgear.

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The FY 2015 budget includes engineering and construction work on the Hyde Avenue, Dagget Avenue, Front Street, and Southeast projects and engineering on the Lee Street and Cottage Street projects. The four construction projects for FY 2015 are substation retirement projects, utilizing system configurations to covert load to higher voltages in a cost effective manner. While the least cost alternative, this conversion and retirement work is also estimated to reduce system losses as shown Chart 8 below. This distribution strategy is funded at \$2.6 million in FY 2015.

**Chart 8**

**Loss Reduction as a Result of Conversion of Unit Substation Load**

<b>Metalclad Retirement Project</b>	<b>kW Losses at 4kV</b>	<b>kW Losses at 13.8kV</b>	<b>% Reduction</b>
Hyde Avenue	50	16	68.0%
Daggett Avenue	83	1	98.8%
Front Street	10	1	90.0%
Southeast	84	13	84.5%
<b>TOTAL</b>	<b>227</b>	<b>31</b>	<b>86.3%</b>

**The Substation Circuit Breaker Strategy and Program** - This program targets obsolete and unreliable breaker families. The Company has approximately 836 distribution substation circuit breakers and reclosers in substations that it maintains,

refurbishes, and replaces as necessary. Units with obsolete technology, such as air magnetic interruption, have been specifically identified for replacement. Additionally, where cost effective and where their conditions warrant, the Company bundles work and replaces disconnects, control cable, and other equipment associated with these circuit breakers. The Company proposes to spend approximately \$924,000 to implement this strategy in FY 2015. The targeted circuit breaker replacement locations and their quantities include Clarke Street (1) Davisville (3) Kingston (3) and Lakewood (3).

**The Relay Replacement Strategy** - This strategy intends to replace those relays, relay packages, communication packages and control houses that have operational issues or are obsolete and no longer supported by the manufacturer. A certain percentage of the electro-mechanical and solid state relay population is currently demonstrating a trend of decreasing reliability. The attempt to keep these relays in working order is thwarted by a lack of spare parts and knowledge base due to obsolescence. The primary intent of the strategy is to replace those relays that have a higher probability of failure. The protection afforded by relays is critical to safety and the stability of the electric system. The relays are designed to protect high-value system assets from effects of system faults and to quickly isolate system disturbances so that no additional damage can occur, while ensuring continued safe and reliable operation of the system. The strategy represents a six-year plan to replace transformer and under frequency relays that have been identified

using the criteria mentioned above, and will be completed in FY 2016. The Company proposes to spend \$400,000 to implement this strategy in FY 2015.

**Substation Transformer Replacement Strategy** – This strategy supports the substation transformer asset replacement program which allows National Grid to rank its substation transformers in terms of health and risk and to identify those transformers that are most critical to the system so that the transformers are properly prioritized for asset replacement. The primary intent of this strategy is to proactively replace transformers that have a high likelihood of failure due to asset condition issues. A three-phase transformer at Lafayette Substation #30 is in the plan to start in FY 2015. The Company proposes to spend \$150,000 on this strategy in FY 2015.

**Spare Substation Transformer Program** - This program includes a substation transformer risk assessment and makes recommendations on necessary additions to transformer spares. A 23 kV – 11.5 kV, 12.5 MVA spare transformer is planned for purchase in FY 2015 to provide coverage for our South Street and Franklin Square substation transformers. The Company proposes to spend \$ 600,000 to implement this program in FY 2015.

**Eldred Substation Rebuild** - This project is required to address asset condition and safety concerns at Eldred substation. This station is one of two 23/4kV stations that supply the island of Jamestown, Rhode Island. Eldred substation supplies the northern

half of the island and Clarke Street substation supplies the southern half. Combined, these two stations supply approximately 3,120 customers with a peak demand of 10MW. This project addresses asset condition, safety clearance issues, operational concerns, and supports the following strategies:

- Distribution Substation Circuit Breaker & Recloser Strategy
- Disconnects and Motor Operated Disconnects Strategy
- Voltage Regulator Strategy
- Distribution Substation Transformer Strategy

The project proposes to spend approximately \$794,000 in FY 2015.

**Network Arc Flash Program** - This program addresses the requirements of the National Electrical Safety Code's ("NESC") Part 4: Work Rules for the Operation of Electric Supply and Communication Lines and Equipment. A 2012 revision to this part of the NESC requires an arc flash hazard analysis for work assignments on facilities operating under 1000 volts. The Company completed its analysis and determined issues concerning certain maintenance activities on its 480V spot network systems. This strategy will mitigate the calculated incident energy levels by installing engineering controls such as primary and secondary switches. The Company expects to address all of its 480V spot networks over a five year horizon. The project proposes to spend approximately \$514,000 in FY 2015.

**Flood Mitigation Projects** - As discussed in previous Electric ISR Plans, major flooding occurred on the Pawtuxet River, Pawcatuck River, Blackstone River, and Hunt River

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from March 30 through April 1, 2010, which resulted in substations located in those areas being de-energized because of excessive water levels. The impacted areas represented a significant health and safety risk to personnel, reliability impacts to customers, as well as significant damage to mechanical, electrical, control, and communications equipment in these substations and their control houses. On June 29, 2012, the Company filed its Rhode Island Flood Mitigation Plan<sup>8</sup> with the Commission. The FY 2014 Electric ISR Plan identified certain changes to the June 2012 Flood Mitigation Plan regarding the Sockanossett and Warwick Mall substations. The flood mitigation work for the Sockanossett substation will remain deferred pending an area capacity study that may affect the need for this substation. A Warwick Mall flood mitigation project has been progressed based on last year's refined estimates to raise a portion of the station equipment. Work for FY 2015 includes continuation of substation engineering, procurement of equipment, permitting and licensing, and construction on several projects to address flood mitigation. The majority of these projects are multi-year projects. Projects in the FY 2015 budget are shown in Chart 9 below.

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<sup>8</sup> Rhode Island Flood Mitigation Plan, Docket No. 4307.

**Chart 9**

**Substation Flood Mitigation Projects in FY 2015 Plan**

<b>Substation with Flood Risk</b>	<b>Preferred Alternative Substation</b>	<b>FY 2015 Activities</b>	<b>Projected Capital Spend FY 2015 (\$M)</b>
Sockanosett	to be determined	On hold	\$0.00
Pontiac	Pontiac	Construction	\$1.28
Warwick Mall	Warwick Mall	Construction	\$0.44
Hope	Hope	Construction	\$0.49
<b>TOTAL</b>			<b>\$2.21</b>

The flood mitigation for Westerly substation has been combined with the capacity driven project at Chase Hill and is discussed in the System Capacity and Performance section. The flood mitigation for the Hunt River substation will be addressed by the capacity project at Kent County, and is also discussed in the System Capacity and Performance section. The flood mitigation work for the Riverside Substation has been completed. This work was performed under a blanket project, as it was estimated to be under \$100,000.

**Inspection & Maintenance (I&M) Program** - This program has both capital and O&M components. The proposed capital spending for FY 2015 of \$ 7.04 million represents a 9% decrease in spending over the FY 2014 budget. Section 4 further discusses both the capital and O&M components of the I&M Program.

**iv. System Capacity and Performance**

The Company has set a budget of \$21.8 million for system capacity and performance projects in FY 2015. This is a significant increase from the \$12.5 million that the Company budgeted in FY 2014, primarily driven by several multi-year substation projects progressing into construction. The System Capacity and Performance category is comprised of Load Relief and Reliability projects. The Load Relief projects account for \$19.0 million, or 88 percent, of the proposed System Capacity and Performance spending in FY 2015.

These Load Relief projects were identified as part of the Company's annual capacity planning process which is conducted each year to identify thermal capacity constraints, maintain adequate delivery voltage, and assess the capability of the network to respond to contingencies that might occur. The capacity planning process includes the following tasks:

- Review of historic loading on each sub-transmission line, substation transformer, and distribution feeder;
- Weather adjustment of recent actual peak loads;
- Econometric forecast of future peak demand growth;
- Analysis of forecasted peak loads vis-à-vis equipment ratings;
- Consideration of system flexibility in response to various contingency scenarios;
- Development of system enhancement project proposals.

The Company has developed a multi-step top down/bottom up process to forecast the loading on these assets to identify the need for capacity expansion projects. First, the Company

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uses an econometric model to forecast summer and winter peak loads in four power supply areas (“PSAs”) in Rhode Island. The explanatory variables in this model include historical and forecasted economic conditions at the county level<sup>9</sup>, historical peak load data for each PSA, and a forecast of weather conditions based on historical data from several weather stations.

The Company uses this model to simulate the historical and forecasted peak demand for each PSA under a normal and extreme weather scenario. The normal weather scenario assumes the same normal peak-producing weather for each year of the forecast. The extreme weather scenario assumes an upper bound peak demand for each PSA under a given set of economic conditions. Based on the historical experience, there is only a five percent probability that actual peak-producing weather will be equal to or more extreme than the extreme weather scenario.

The forecast of peak load for each PSA generated with the model incorporates the energy efficiency (“EE”) savings achieved through 2012 since these savings would be reflected in the historical data used by the model. The Company subtracts forecasted incremental EE savings beyond the amounts achieved through 2012 from the load forecast for each PSA. The incremental system-wide EE savings is apportioned to each PSA based on its proportion of total system-wide load.

The PSA growth rates are applied to each of the substations and feeders within the area. Distribution planners then adjust forecasts for specific substations and feeders to account for known spot load additions or subtractions, as well as for any planned load transfers due to

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<sup>9</sup> This data and forecasts are provided by Moody’s Economy.com.

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system reconfigurations. The planners use the forecasted peak loads for each feeder/substation under the extreme weather scenario to perform planning studies and to determine if the thermal capacity of its facilities is adequate.

Individual project proposals are identified to address planning criteria violations. At a conceptual level, these project proposals are prioritized and submitted for inclusion in future capital work plans. Projects in the load relief program are typically new or upgraded substations and distribution feeder mainline circuits. Other projects in this program are designed to improve the switching flexibility of the network, improve voltage profile, or to release capacity via improved reactive power support.

The Company has developed guidelines for the consideration of non-wires alternatives in the distribution planning process. The goal is to seek the combination of wires and non-wires alternatives that solves capacity deficiencies in a cost effective manner that also considers the potential benefits and risks. As part of this process, the Company would conduct analysis at a level of detail commensurate with the scale of the problems and the cost of potential solutions. In Docket No. 4296, the Company proposed a pilot non-wires alternative project to the Commission on February 1, 2012, designed to test the capabilities of targeted energy efficiency applications to defer distribution investment.<sup>10</sup>

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<sup>10</sup> On November 2, 2012 a detailed update was provided in Docket No.4367 - *The Narragansett Electric Company, d/b/a National Grid 2013 System Reliability Procurement Plan* in Docket No. 4367.

Some of the most significant Load Relief Projects for FY 2015 include:

- **Proposed New London Ave Substation (formerly West Warwick Substation)**  
Construction of a new 115/12.47 kV substation in the City of Warwick to provide thermal relief to area distribution feeders, transformers, and supply lines and support projected growth in the area. A number of distribution circuits, transformers, and supply lines are projected above their normal and emergency ratings in the City of Warwick and Towns of West Warwick, Scituate, and West Greenwich. Land has been acquired to house this substation and engineering will be conducted for the new site.
- **Proposed Chase Hill Substation (formerly Hopkinton Substation) -**  
Construction of a new 115/12.47 kV substation in the Town of Hopkinton to provide thermal relief to area distribution feeders, transformers, and supply lines and support projected growth in the area. A number of distribution circuits, transformers, and supply lines are projected above their normal and emergency ratings. This project will also support retirement of the Ashaway substation. Land has been acquired to house this substation and detailed engineering has begun. As described in the Flood Mitigation Projects part of the Asset Condition section, the Westerly Substation flood risk solution is now included in this load relief project.

- **Proposed Newport Substation** - Construction of a new 69/13.8 kV substation and all related distribution line work to develop five new 13.8 kV feeders to provide load relief to the City of Newport. The completion of this project will provide thermal relief to overloaded feeders and supply lines in the City of Newport and improve the overall reliability to Aquidneck Island. The installation of new 13.8 kV feeders and conversion of 4 kV load to the new station improves the reliability of the 23 kV supply and 13.8kV distribution systems during contingencies. This plan supports the retirement of Bailey Brook and Vernon substations to address reliability, asset condition and environmental concerns with the most economical solution.
- **Johnston Substation 12.47kV Substation Expansion** - This project will expand a newer 12.47kV bus section and upgrade the 40MVA #3 Transformer to a 55MVA unit. This project will address capacity issues with four heavily loaded feeders west of the station, asset condition issues in the old 12.47 switchyard, and loss of supply cables in the older 12.47kV switchyard as a result of the failure of a three-winding transformer in the spring of 2009 (which resulted in a loss of one of two 12.47 kV supply lines in the older half of the station). Temporary cables presently tie the new 12.47kV bus to the old 12.47 bus sections, increasing customer exposure.

- **Kilvert St – Install Second Transformer and Two-New Feeders** – This project is required to mitigate load at risk in the cities of Cranston and Warwick for loss of the Kilvert Street substation transformer and to provide thermal relief to area distribution feeders, transformers, and supply lines. Kilvert Street substation has a single 115/13.2kV, 33/44/55MVA transformer supplying four distribution feeders. Loss of the Kilvert Street transformer results in an initial outage of 29MW of load. Approximately 14MW of load can be transferred to other area substations through feeder ties leaving 15MW of load un-served until a spare or mobile transformer is installed. This results in a load at-risk exposure of 400MWh.
- **Kent County – Install Second Transformer and One-New Feeder:** This project is required to mitigate load at risk for loss of the Kent County substation transformer and to address flooding and environmental risks that currently exist at Hunt River substation. Kent County substation has a single transformer supplying four distribution feeders. It supplies approximately 9,400 customers with a peak load of 42MW. Upon contingency approximately 27MW of load (or approximately 6,000 customers) would be un-served until a spare or mobile transformer is installed resulting in an exposure of 696MWh. To address flood issues at Hunt River substation, this project installs a new feeder at Kent County substation. Hunt River substation is located in the flood plain adjacent to the

Hunt River and is located within a wellhead protection area that supplies drinking water to the Towns of East Greenwich and North Kingstown and the City of Warwick. The additional feeder at Kent County provides capacity to retire Hunt River, addressing the flood issues in a cost effective manner when compared to station reconstruction.

- **Highland Drive Substation** – This project includes the construction of a new 115/13.8 kV low profile substation, six 13.8kV distribution feeders, and all related distribution line work in Cumberland, RI. This project is designed to provide contingency relief at Riverside substation and Staples substation, relieving the Riverside 108W55 and Staples 112W43 and 112W41 feeders due to concentrated commercial development at the Highland Drive Industrial Park.
- **Clark Street Substation Feeder Upgrade** – This project is required to address reliability concerns on the Island of Jamestown. There are normal loading concerns at well as asset condition issues associated with a modular transformer and breaker at this station. The equipment nearing the end of its useful life will be upgraded providing needed capacity to this area.

In addition to these projects, the Company also has a Distribution Line Transformer Strategy to mitigate unplanned outage/failure risks due to overloads and asset condition of distribution line transformers. There are approximately 64,000 distribution transformers on the

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Company's distribution system. Transformer loading is reviewed annually using reports generated by the Company's Geographical Information System ("GIS"). Transformers with calculated demands exceeding load limits specified in the applicable construction standard are investigated, and overloaded installations are addressed by replacement with larger units or load is relieved via installation of a second transformer. The physical condition of distribution line transformers is evaluated on a five-year cycle as part of the Inspection and Maintenance Strategy. Poor-condition units are replaced based on inspection results. The strategy is in addition to replacements that are performed during customer-service upgrades, public requirements projects, and system-improvement projects. The main benefit of this strategy is the maximization of asset utilization and sustained reliability performance. The Distribution Line Transformer strategy is funded at \$1.9 million in FY 2015.

The Company also has a Distribution Load Relief Blanket to provide the necessary funding for other load relief projects. These projects are established to ensure that a mechanism is in place to initiate, monitor, and report on work under \$100,000 in value. The amount of funding in the blanket project is reviewed and approved each year based on the results of the previous annual capacity planning review, historical trends in the volume of work required, as well as a forecasted impact of inflation on material and labor rates. The current year spending in the project is monitored on a monthly basis. The blanket also provides local field engineering with the control accounts to facilitate timely resolution of system and equipment loading issues. These blanket projects are utilized to respond to issues such as overloaded sections of wire/cable

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or step-down transformers, the installation of feeder voltage regulators and capacitors, and minor work necessary to facilitate the reallocation of load on existing circuits. These blanket projects are budgeted at \$254,000 in FY 2015.

In addition to the Load Relief Projects identified above, the Company is also proposing to spend approximately \$2.7 million in FY 2015 on several programs designed to maintain system reliability, which is an increase over the Company's spending level of \$2.1 million for these programs from FY 2014. This increase in spending is driven by the following:

**Distribution Reliability Blanket** - In addition to specific projects (i.e. those \$100,000 or greater), the Company also budgets for work less than \$100,000 under a Distribution Reliability Blanket Project. The amount of funding in each divisional blanket project is reviewed and approved each year based on the results of the previous annual reliability review, historical trends in the volume of work required, as well as a forecasted impact of inflation on material and labor rates. The current year spending in each divisional project is monitored on a monthly basis. These projects are established to ensure that a mechanism is in place to initiate, monitor, and report on work under \$100,000 in value. The blankets also provide local field engineering in each operating division with the control accounts to facilitate timely resolution of historical and new reliability issues that emerge. These blanket projects are budgeted at \$683,000 in FY 2015.

**Minor Storm Hardening Projects** - The Company defines "Minor Storms" as occurring on days when the network experiences an exponentially greater number (between 1.5 and 2.5

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Beta plus three times the average number of events) of SAIDI minutes due to a weather event. A review of reliability on these Minor Storm days can identify areas of Customers Experiencing Multiple Interruptions (“CEMI”). These projects target areas and circuits with a CEMI greater than four. The Tunk Hill Reliability Project, initiated in FY 2014 is an example project that continues into final construction in FY 2015. This project includes reconductoring an area from bare conductor to tree wire in a spacer cable arrangement to improve customer reliability. Areas currently under review are the Foster/Clayville area and the West Greenwich/Exeter area. Projects similar in scope to the Tunk Hill Reliability Project are expected from these area reviews. The Company proposes an approximately \$700,000 budget for this program in FY 2015.

**Substation EMS/RTU (SCADA) Additions Program** - The Company is proposing to expand the EMS/RTU program to improve reliability performance, increase operational effectiveness, and to provide data for asset expansion or operational studies. The Company proposes an approximately \$1.7 million budget for this program in FY 2015. Targeted substations, subject to resource planning and other project constraints include: Natick 29, Hospital 146, Harrison #32, Warwick 52, Anthony 64, Apponaug, Coventry #54, Knightsville 66, Hopkins Hill 63, Rochambeau, Davisville #84, and Clarkson substations. In addition, the Company will start preliminary engineering in FY 2015 for 5 additional substations.

**Volt/Var Management Project** - The Company has historically managed the voltage profile of its distribution feeders utilizing voltage regulators and capacitor banks with independent local controls. In this fashion the Company is generally able to keep the range of voltages provided to customers along the circuit within the required +/- 5% band. The intent of this project is to flatten and lower the feeder voltage profile through the use of additional voltage monitors along the feeder and centralized control of the of the regulating devices . In doing so, it is expected that customers will benefit by reduced kWh usage. Projects completed by other utilities have shown energy savings of about 3%. Upon completion of the project, the Company will evaluate the enhanced benefits of centralized control schemes on its system.

To develop the scope of work for this project, a comprehensive study was conducted in two phases focusing on traditional Volt/Var management and an advanced Volt/Var management which includes a two-way communication network and centralized control schemes. Through an RFP process, the Company requested proposals for Advanced Volt/Var management schemes, and Utilidata, a Rhode Island based company, was selected as the preferred vendor to provide the necessary integrated control system.

The project is currently in the preliminary engineering stage, which includes the development of a statement of work with UtiliData, project sanctioning, distribution electric system design, initial field testing of proposed communications network, and SCADA integration. The Company proposes a \$1.2 million budget for this program in FY 2015.

**D. Recovery of Electric ISR Plan Capital Investment – Capital Placed In Service**

In previous Electric ISR Plan filings, the Company calculated the revenue requirement based on the Company's projected capital amounts to be placed into service plus associated cost of removal. To develop its Capital Placed-In-Service figure for this filing, the Company has used estimated timing of in-service dates for capital spending being placed into service during FY 2015. Each year, as part of the Company's annual reconciliation, the revenue requirement related to mandatory, or nondiscretionary in-service amounts, or that is attributable to the statutory/regulatory and damage failure categories, was trued up based on the lesser of actual non-discretionary spending or actual non-discretionary capital investments placed into service on a cumulative basis since the inception of the Electric ISR Plan in April 2011. The revenue requirement associated with all other capital investments was trued up based on the lesser of allowed discretionary capital spending or actual capital investment placed into service on a cumulative basis since the inception of the Electric ISR Plan in April 2011. Because of the multi-year nature of certain projects, current and prior year(s) capital spending was included in the plant in-service amount when a project is placed into service during the fiscal year. Similarly, the capital portion of a project included in a fiscal year's spending plan that will be placed into service in future fiscal periods was included in subsequent revenue requirement calculations during that project's in-service year.

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Charts 10 below provides details as to total FY 2015 amounts for Capital Spending, Plant In-Service and Cost of Removal that have been used in the development of the FY 2015 Electric ISR Plan revenue requirement.

**Chart 10**

**Proposed FY 2015 Capital Spending, Plant-In-Service, and Cost of Removal (COR)**

<b>Spending Rationale</b>	<b>Proposed Capital Spending FY 2015</b>	<b>New Capital Placed in Service 2015</b>	<b>Estimated Cost of Removal</b>	<b>New Capital in Service Plus COR</b>
Statutory/Regulatory	\$14,537,000	\$14,574,000	\$1,348,520	\$15,922,520
Damage/Failure	\$ 9,816,000	\$10,921,000	\$1,452,850	\$12,373,850
<i>Subtotal</i>	<i>\$24,353,000</i>	<i>\$25,495,000</i>	<i>\$2,801,370</i>	<i>\$28,296,370</i>
Asset Condition	\$19,511,000	\$20,153,000	\$3,801,570	\$23,954,570
Non-Infrastructure	\$ 277,000	\$ 277,000	\$0	\$ 277,000
System Capacity & Performance	\$21,759,000	\$23,013,000	\$1,797,060	\$24,810,060
<i>Subtotal</i>	<i>\$41,547,000</i>	<i>\$43,443,000</i>	<i>\$5,598,630</i>	<i>\$49,041,630</i>
<b>Total</b>	<b>\$65,900,000</b>	<b>\$68,938,000</b>	<b>\$8,400,000</b>	<b>\$77,338,000</b>

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**Attachment 1 - Capital Spending by Key Driver Category and Budget Classification**

SPENDING RATIONALE	BUDGET CLASSIFICATION	FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 ACTUAL	FY 2013 ACTUAL	FY 2014 BUDGET	FY 2014 FORECAST	FY 2015 BUDGET
Statutory/Regulatory	3rd Party Attachments	780,847	(909,712)	463,848	223,335	514,000		305,000
	Distributed Generation	-	-	-	(675,256)	162,000		
	Land and Land Rights	274,560	281,215	185,520	127,922	190,000		179,000
	Meters - Dist	2,042,048	2,214,951	1,496,949	1,454,793	1,752,000		1,824,000
	New Business - Commercial	4,705,078	4,286,660	3,390,872	3,721,667	4,300,000		3,924,000
	New Business - Residential	3,256,239	3,529,650	2,833,259	2,885,908	3,025,000		2,870,000
	Outdoor Lighting - Capital	1,003,097	411,364	495,328	487,545	537,000		533,000
	Public Requirements	3,121,260	1,539,416	1,134,582	(1,230,546)	2,599,000		1,268,000
	Transformers & Related Equipment	4,128,756	3,277,796	3,074,796	3,414,855	3,430,000		3,634,000
<b>Statutory/Regulatory Total</b>		<b>19,311,885</b>	<b>14,631,340</b>	<b>13,075,154</b>	<b>10,410,223</b>	<b>16,509,000</b>	<b>17,909,000</b>	<b>14,537,000</b>
Damage/Failure	Damage/Failure	9,143,559	8,330,840	9,573,923	7,795,002	9,375,000		8,816,000
	Major Storms - Dist	(112,426)	4,863,261	3,418,936	9,720,450	675,000		1,000,000
<b>Damage/Failure Total</b>		<b>9,031,133</b>	<b>13,194,101</b>	<b>12,992,859</b>	<b>17,515,452</b>	<b>10,050,000</b>	<b>10,689,000</b>	<b>9,816,000</b>
Non-Infrastructure	General Equipment - Dist	391,872	60,548	148,707	191,193	105,000		102,000
	Corporate/Admin/General	(1,238,810)	645,055	117,838	889,752	150,000		-
	Telecommunications Capital - Dist	-	-	-	1,188,120	-		175,000
<b>Non-Infrastructure Total</b>		<b>(846,938)</b>	<b>705,603</b>	<b>266,545</b>	<b>2,269,065</b>	<b>255,000</b>	<b>787,000</b>	<b>277,000</b>
Asset Condition	Asset Replacement	12,574,361	5,604,107	9,766,995	6,984,455	11,377,000		11,957,000
	Asset Replacement - I&M	490,942	226,693	553,104	1,086,377	8,515,000		7,040,000
	Safety	-	-	-	-	350,000		514,000
<b>Asset Condition Total</b>		<b>13,065,303</b>	<b>5,830,800</b>	<b>10,320,099</b>	<b>8,070,832</b>	<b>20,242,000</b>	<b>16,780,000</b>	<b>19,511,000</b>
System Capacity & Performance	Load Relief	8,798,076	6,011,935	8,836,739	6,618,542	10,396,500		19,052,000
	Reliability	5,768,069	2,798,644	2,554,262	3,723,651	1,947,500		2,707,000
	Reliability - Feeder Hardening	2,888,145	1,984,135	2,564,239	907,019	200,000		-
<b>System Capacity &amp; Performance Total</b>		<b>17,454,290</b>	<b>10,794,714</b>	<b>13,955,240</b>	<b>11,249,212</b>	<b>12,544,000</b>	<b>22,586,000</b>	<b>21,759,000</b>
<b>Grand Total</b>		<b>58,015,673</b>	<b>45,156,558</b>	<b>50,609,897</b>	<b>49,514,784</b>	<b>59,600,000</b>	<b>68,751,000</b>	<b>65,900,000</b>

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**Attachment 2 – Project Detail for Proposed FY 2015 Capital Spending**

Spending Rationale	Budget Classification	Project Number	Project Description	FY15 Proposed Budget
Statutory/Regulatory	3rd Party Attachments	COS0022	Ocean St-Dist-3rd Party Atch Blnkt	305,000
	3rd Party Attachments Total			305,000
	Land and Land Rights - Dist	COS0009	Ocean St-Dist-Land/Rights Blanket	179,000
	Land and Land Rights - Dist Total			179,000
	Meters - Dist	CN04904	Narragansett Meter Purchases	1,260,000
		COS0004	Ocean St-Dist-Meter Blanket	564,000
	Meters - Dist Total			1,824,000
	New Business - Commercial	COS0011	Ocean St-Dist-New Bus-Comm Blanket	3,024,000
		C046977	Reserve for New Business Commercial	700,000
		C051203	LNG Plant Svc Terminal Rd Prv DLine	100,000
		C051204	LNG Plant Svc Terminal Rd Prv DSub	100,000
	New Business - Commercial Total			3,924,000
	New Business - Residential	COS0010	Ocean St-Dist-New Bus-Resid Blanket	2,870,000
	New Business - Residential Total			2,870,000
	Outdoor Lighting - Capital	COS0012	Ocean St-Dist-St Light Blanket	533,000
	Outdoor Lighting - Capital Total			533,000
	Public Requirements	COS0013	Ocean St-Dist-Public Require Blankt	914,000
		C035087	DOTR-Apponaug Circulator Imprv Warw	282,000
		C051607	Reserve for Public Requirements Uni	200,000
		CD00766	I-195 Contract 15 - Providence	150,000
		CD00135	I-195 Contract 14 - Providence	105,000
		C012179	DOTR-Repl Great Island Bridge No499	85,000
		C050419	DOTR-Woonsocket-Hamlet AvBridge#500	85,000
		CD00679	DOTR-Rehab Coles Bridge No. 134, Pa	85,000
		CD00189	DOTR-Central Bridge No. 182 Replace	84,000
		CD01205	DOTR-Hussey Memorial Bridge No. 011	68,000
		CD00076	DOTR-Atwells Avenue Bridge No. 975,	67,000
		CD00373	Watch Hill UG Phase 2	43,000
		C046970	Reserve for Public Requirements Uni	(900,000)
	Public Requirements Total			1,268,000
Transformers & Related Equipment	CN04920	Narragansett Transformer Purchases	3,634,000	
Transformers & Related Equipment Total			3,634,000	
<b>Statutory/Regulatory Total</b>				<b>14,537,000</b>
Damage/Failure	Damage/Failure	COS0014	Ocean St-Dist-Damage&Failure Blankt	7,207,000
		COS0002	Ocean St-Dist-Subs Blanket	609,000
		C046986	Reserve for Damage/Failure Unidenti	500,000
		C051608	Reserve for Damage/Failure Unidenti	500,000
	Damage/Failure Total			8,816,000
Major Storms - Dist	C022433	OSD Storm Cap Confirm Program Proj	1,000,000	
Major Storms - Dist Total			1,000,000	
<b>Damage/Failure Total</b>				<b>9,816,000</b>
Non-Infrastructure	General Equipment - Dist	COS0006	Ocean St-Dist-Genl Equip Blanket	102,000
	General Equipment - Dist Total			102,000
	Telecommunications Capital - Dist	C040644	Telecom Small Capital Work - RI	175,000
	Telecommunications Capital - Dist Total			175,000
<b>Non-Infrastructure Total</b>				<b>277,000</b>

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Spending Rationale	Budget Classification	Project Number	Project Description	FY15 Proposed Budget
Asset Condition	Asset Replacement	CD01242	Pontiac Substation Flood Restoratio	1,200,000
		COS0017	Ocean St-Dist-Asset Replace Blanket	1,166,000
		C047377	IRURD Wethersfield Commons	1,020,000
		C032278	OS ARP Breakers & Reclosers	924,000
		C047422	IRURD Maplewood	850,000
		C050006	Hyde Ave Retirement (D-Line)	650,000
		CD00648	Eldred Sub Asset Replacement (D-Sub	646,000
		C026058	OS ARP Spare Substation Transformer	600,000
		C050017	Daggett Ave Sub Retirement (D-Line)	600,000
		C032258	ACNW Vlt47 Structural Repairs Prov	570,000
		C047379	IRURD Wood Estate	510,000
		C049910	Southeast Sub Retirement (D-Line)	500,000
		C046697	Hope Substation Flood Restoration	494,000
		CD01097	Warwick Mall Substation Flood Resto	438,000
		CD00937	IRURD Village Green Rehab	425,000
		C035586	Relay Replacement Strategy Co 49DxT	400,000
		C051202	79F1 & 13F1 Elim T-Body Joints Prov	400,000
		C046406	Fdr 1109B Inst Cable Pine St & west	360,000
		C046399	Fdr 1103 Inst Cable So Main St Prov	345,000
		C041726	Replace HMIs - NEC	254,000
		C025815	OS ARP Insul, SensDev, Surge Arrest	250,000
		C032019	Batts/Chargers NE South OS RI	250,000
		C036093	Elmwood#7Replace 23KV Groun Bank	200,000
		C046397	Fdr 1109A - Install Cable Dorrance	200,000
		C048969	RI RAPR ARP	175,000
		C046400	Capital Ctr Fdrs - Elim T-body join	160,000
		C047397	IRURD Cedarhurst	153,000
		C006140	RTU Rplcmnt Program - NECo	150,000
		C025803	OS ARP Transformers	150,000
		C051271	Hyde Ave Metalclad - Sub Retirement	150,000
		C051272	Southeast 60 Metaclad - Sub Retirem	150,000
		C051274	Daggett Ave Metalclad - Sub Retirem	150,000
		COS0026	OS-Dist-Substation Asset Repl Blnk	150,000
		CD00659	Eldred Sub Asset Replacement (D-Lin	148,000
		C050778	Front St Substation Retirement	140,000
		C051205	Dyer St replace indoor subst D-SUB	100,000
		C051212	South St repl indoor subst D-SUB	100,000
		C051213	South St repl indoor subst D-LINE	100,000
		C051273	Front St Metalclad-Sub Retirement	100,000
		C036230	Langworthy Substation (D-Sub)	97,000
		C050760	Cottage St Retirement (D-Line)	90,000
		C047398	IRURD Wionkheige	85,000
		C032028	Regulator Repl-NE South OS RI	83,000
		C020297	Sac AB Repl Prog Phase 7 NEC DxT	81,000
		C046405	Fdr 1113 Inst Cable Fountain St Pro	80,000
		CD00641	Retire Pawtuxet Substation (D-Line)	80,000
		CD01243	Pontiac Substation Flood Restoratio	75,000
		C050758	Lee St Retirement (D-Line)	70,000
		C023852	Inst Ductline Governor St. Prov.	50,000
		C051211	Dyer St replace indoor subst D-LINE	50,000
		C047375	IRURD Mystery Farms Estates	43,000
		C047378	IRURD Willowbrook	43,000
		C047394	IRURD Tanglewood	43,000
		C047828	IRURD Westwood Estates	43,000
		C047829	IRURD High Hawk	43,000
		C049356	IRURD Silver Maple Phase 2	43,000
		C049462	IRURD Stone Ridge Acres Phase 2	43,000
		C046398	Memorial Blvd Easton's Beach inst d	25,000
C046877	Sockanosset Substation - RI Flood R	20,000		
C051198	Abandoned Equipment Removal	1,000		
C046984	Reserve for Asset Replacement Unide	(1,663,000)		
C046982	Reserve for Asset Replacement Unide	(2,896,000)		
Asset Replacement Total				11,957,000
Asset Replacement - I&M (NE)		C026281	I&M - OS D-Line OH Work From Insp	6,936,000
		C014326	I&M - OS D-Line UG Work From Insp	104,000
Asset Replacement - I&M (NE) Total				11,040,000
Safety		CD01257	Distribution Secondary Network Arc	514,000
Safety Total				514,000
<b>Asset Condition Total</b>				<b>19,511,000</b>

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Spending Rationale	Budget Classification	Project Number	Project Description	FY15 Proposed Budget		
System Capacity & Performance	Load Relief	C024176	Chase Hill Sub (D-Sub)	3,456,000		
		CD00972	New Highland Drive Substation - DSu	2,904,000		
		C024175	Chase Hill Sub (D_Line)	2,600,000		
		C015158	Newport Substation (D-Sub)	2,000,000		
		C028920	New London Ave (D-Sub)	2,000,000		
		C005505	IE - OS Dist Transformer Upgrades	1,900,000		
		C033535	Johnston Sub 12.47 kV Expansion	1,635,000		
		C036516	Kilvert St 87 - New Fdr (DLine)	1,600,000		
		C046352	RI Volt/Var Mgmt Pilot Project	1,200,000		
		C036522	Kilvert St 87 - Install TB#2	708,000		
		C046831	CLARKE 65J12 Feeder Upgrade (D-Sub)	510,000		
		CD00978	New Highland Drive Substation - DLI	440,000		
		C036450	83F2 Load Relief - New Fdr (Dline)	428,000		
		CD01101	Kent County 2nd Transformer (D-Sub)	340,000		
		C028921	New London Ave (D-Line)	300,000		
		COS0016	Ocean St-Dist-Load Relief Blanket	254,000		
		C013967	PS&I Activity - Rhode Island	206,000		
		CD00557	Harrison Feeder Upgrades	150,000		
		C046832	CLARKE St Feeder Upgrades (D-Line)	136,000		
		C034002	Johnston Sub 12kV Expansion Getaway	112,000		
		C028628	NEWPORT Phase 2 (D-Line)	100,000		
		C028884	Install Johnston 18F10 Feeder	71,000		
		CD01093	KENTS CORNER transformer contingenc	56,000		
		C036072	Johnston #18 Substation Expansion	43,000		
		C024159	Newport 69kV Line 63 (D-Line)	30,000		
		CD00649	Gate 2 Substation (D-Sub)	10,000		
		CD01104	Kent County 2nd Transformer (D-Line)	7,000		
		C027222	West Farnum - Rem. Dist. Equipment	6,000		
		C046987	Reserve for Load Relief Unidentifie	(1,832,000)		
		C046975	Reserve for Load Relief Unidentifie	(2,318,000)		
			<b>Load Relief Total</b>			<b>19,052,000</b>
			Reliability - Dist	C046383	Storm Hardening for Rhode Island	700,000
				COS0015	Ocean St-Dist-Reliability Blanket	683,000
		CD00528		EMS Expansion - Natick 29 Substatio	388,000	
		CD00529		EMS Expansion - Hospital Sub 146	388,000	
		C046506		Tunk Hill Road, Scituate RI, Storm	324,000	
		C049699		Knightsville 66 - EMS Expansion	160,000	
		C049680		Rochambeau Ave - EMS Expansion	150,000	
		COS0025		OS-Dist-Substation LR/Rel Blnkt	150,000	
		C035726		EMS - Narragansett Elec	100,000	
		C049681		Clarkson - EMS Expansion	97,000	
		C049705		Apponaug- EMS Expansion	85,000	
		C049679		Harrison #32 - EMS Expansion	80,000	
		C050698		Davisville #84 - EMS Expansion	80,000	
		C051199		Mobile Battery Trailer	80,000	
		C049800		Coventry #54 - EMS Expansion	75,000	
		C049700		Anthony 64	65,000	
		C049682		Warwick 52 - EMS Expansion	55,000	
		C046678		EMS Expansion - Hopkins Hill 63	47,000	
		C046971		Reserve for Reliability Unidentifie	(500,000)	
		C046972		Reserve for Reliability Unidentifie	(500,000)	
		<b>Reliability - Dist Total</b>				<b>2,707,000</b>
	<b>System Capacity &amp; Performance Total</b>				<b>21,759,000</b>	
	<b>Grand Total</b>				<b>65,900,000</b>	

**Exhibit 1 – JLG & RM  
Section 3  
Vegetation Mgmt.**

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Section 3: Vegetation Management Plan

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## **Section 3**

Vegetation Management Program

FY 2015 Electric ISR Plan

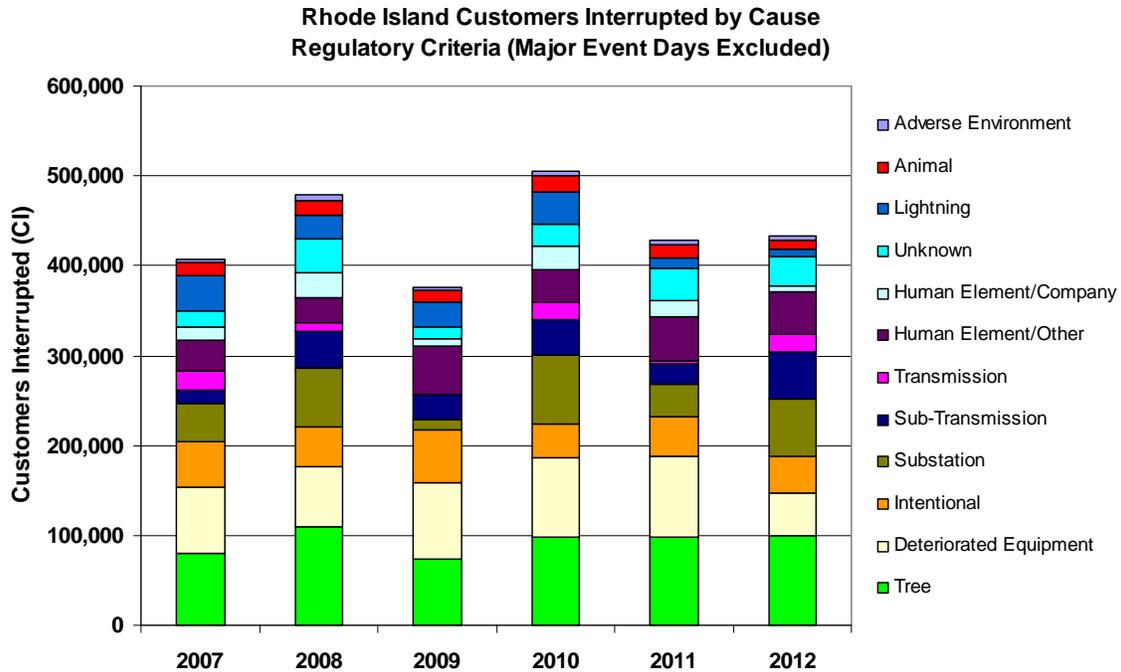
**Vegetation Management Program  
FY 2015 Proposal**

The Company's Vegetation Management ("VM") Program is an essential component of the Company's plan to maintain the safety and the reliability of its electric distribution network. Trees are an important concern for several reasons. Tree contact with the electric distribution system increases the risk of electric shock to the public, slows the restoration of critical infrastructure and may increase the risk of fire. Trees can also be a significant deterrent to reliability since tree contact with the distribution system during windy/stormy conditions may cause a phase to phase fault, which will trip either a line fuse, pole recloser or a station breaker and cause a service interruption.

Chart 1 shows that from 2007 to 2012, trees were responsible for, on average, about 93,000 customer interruptions per year. Chart 2 shows that trees caused about 21 percent of the Company's total customer interruptions over the same timeframe. Both charts exclude major event days.

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**Chart 1**



Cause	Customers Interrupted (CI) (Major Event Days Excluded)					
	2007	2008	2009	2010	2011	2012
Adverse Environment	3,135	5,910	3,926	3,800	4,444	4,778
Animal	14,736	16,977	11,769	18,021	15,547	9,912
Deteriorated Equipment	73,807	67,114	85,047	87,768	89,743	47,301
Human Element/Company	15,056	28,298	8,450	26,047	18,455	7,043
Human Element/Other	34,511	27,607	54,275	36,999	48,650	47,404
Intentional	49,606	44,887	58,356	37,743	44,526	40,927
Lightning	37,854	25,987	27,874	36,859	11,044	9,362
Substation	43,636	65,704	10,713	77,189	37,086	63,397
Sub-Transmission	14,886	40,845	28,046	40,034	22,524	51,972
Transmission	20,176	8,721	25	18,438	2,973	19,099
Tree	80,256	109,214	74,116	97,807	97,485	100,459
Unknown	18,660	37,501	13,545	23,962	36,065	32,176
<b>Total</b>	<b>406,319</b>	<b>478,765</b>	<b>376,142</b>	<b>504,667</b>	<b>428,542</b>	<b>433,830</b>



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The Company has developed a strong VM program which provides a measure of safety for the public/workforce, favorable operational efficiency, and minimizes the number of customer interruptions due to trees. The Company's VM program consists of several different activities, each addressing a different aspect of utility vegetation management.

**Cycle Pruning** - The cycle pruning program is designed to ensure that the vegetation growth along the overhead portion of the Company's distribution network does not interfere with the safe and reliable performance of the electric network. Cycle Pruning consists of the scheduling of every distribution circuit for pruning on a fixed timeframe or rotation. The pruning work performed is based on a dimension clearance specification. Cycle Pruning is designed to maintain an acceptable clearance between overhead conductors and vegetation to minimize the safety risk to the public and utility workforce. A stable, consistently funded circuit pruning program minimizes the risks of public and worker electrocution as well as wild fire events and is a best utility practice.

Consistent circuit pruning also helps maintain service reliability and supports efficient management of the overhead network. Managing the vegetation along the network helps to avoid interruptions caused by phase to phase tree contact and makes the network more accessible to line crews so they can restore power quickly following an interruption. Cycle Pruning also provides crews the clearance necessary to accurately inspect circuits and to more efficiently perform any required maintenance which also helps avoid interruptions. As shown in the

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Vegetation Management Cost Benefit Report<sup>11</sup> filed on August 29, our review of the cycle pruning program shows, on average, a 28 percent improvement in customer interruptions per circuit in the first year after pruning. With the circuit pruning work underway currently in FY 2014, National Grid will complete a full four year cycle on all overhead distribution circuits for the first time due to consistent funding through the ISR process.

The Company continues to recommend a four-year interval as the optimum pruning cycle for the Rhode Island overhead distribution assets based on tree growth rates and the acceptable clearance dimensions obtained at the time of pruning. Due to improved data analysis tools, we have re-classified our population of overhead circuits into pure distribution circuits or sub-transmission circuits. This reclassification reduces our total pure distribution circuit mileage in Rhode Island to approximately 4,960 miles down from approximately 5,200 miles that was used in past filings. To maintain a four year pruning cycle, approximately 1,240 miles needs to be pruned each year. After detailed field analysis of the current circuits due at this time, the FY 2015 plan will require the pruning of 1,115 miles of distribution. The apparent short fall is due to circuit mileage balancing over the next full cycle as well as the fact that a small percentage of circuits originally in the FY 2015 schedule have not yet reached the optimal growth point for pruning. The estimated cost for distribution cycle pruning in FY 2015 is \$4.475 million, or approximately \$4,012 per mile. This cost per mile figure is based on our actual costs in FY 2014 with a three percent inflation factor.

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<sup>11</sup> Attachment 2, page 13.

**Enhanced Hazard Tree Mitigation (“EHTM”)** - Hazard tree removal, as part of a complete utility vegetation management program, has become a best industry practice as well. Full tree and large limb failures have been shown to account for a significant portion of customer interruptions, not only in Rhode Island but also in other states. Using three years of tree-related interruption data for Rhode Island one can see that fallen trees account for 41 percent of tree-related customer interruptions (“CIs”).

To address this issue, in 2008, the EHTM program was implemented to identify and remove dying or structurally weakened trees and overhanging leads along the three phase sections of distribution circuits. The three phase portion of the circuit is the most susceptible to tree caused faults and also serves the highest number of customers per exposed mile. Thus hazard tree removal on three-phase sections of the distribution circuit intuitively provides the highest benefit per hazard tree removal dollar. EHTM uses an industry leading tree risk assessment protocol to identify hazard trees. This year, to improve customer satisfaction and reliability, we have expanded our program to look beyond three phase sections on circuits experiencing multiple interruptions.

The purpose of the EHTM program is primarily to provide a reliability benefit. The hazard tree mitigation program targets the mainline portion of the Company’s worst performing circuits where tree caused phase-to-phase faults will interrupt the entire population of customers on that circuit. To demonstrate these benefits and to meet the requirements of the FY 2012

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Rhode Island Electric ISR Plan, a study of the Company's EHTM program was performed.<sup>12</sup>

The results show an average improvement in tree-related Customers Interrupted (CI) by circuit of 78 percent for the first year following project completion.<sup>13</sup> The EHTM program can, therefore, significantly improve the customer's service reliability on targeted circuits.

As a secondary benefit, the hazard tree mitigation program reduces repair costs. Hazard trees are designated as such because they have a high probability of failing and causing damage to Company equipment. Within the same benefit study referred to above, the Company estimated a 13 percent reduction in annual repair costs on a circuit where EHTM has been employed.<sup>14</sup> The costs can be either capital or O&M, or both. National Grid continues to use estimates for this analysis because the time and costs of implementing a system to track actual expenses would be prohibitive and would possibly negate any financial gain derived from the analysis.

Given that trees continue to be a major cause of customer interruptions and in light of the significant reliability benefits associated with EHTM, now demonstrated by the Company's costs benefit analysis, the Company proposes to increase the spending in this area for FY 2015 to the amount of \$1.0 million.

**Sub-Transmission** - This category includes vegetation management activities for the sub-transmission ("Sub-T") right-of-way ("ROW") network. Much like distribution cycle

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<sup>12</sup> Electric ISR Plan Vegetation Management Cost Benefit Report, filed September 5, 2012.

<sup>13</sup> Electric ISR Plan Vegetation Management Cost Benefit Report, filed August 29, 2013, Attachment 1, page 1.

<sup>14</sup> Electric ISR Plan Vegetation Management Cost Benefit Report, filed August 29, 2013, Table 4, page 8.

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pruning, the Sub-T circuits are treated on a four-year cycle but, because of the smaller population of circuits, are not as easily balanced year to year. Also, as noted in the Cycle Pruning section, due to the re-categorization of overhead miles from pure distribution into the sub-transmission category the total sideline miles and requirement for annual miles maintained in this category have risen. The FY 2015 schedule includes the off-road ROW edge or sideline pruning and hazard tree removal work on five circuits estimated to cost \$176,000. The total cost for the required FY 2015 sub-transmission vegetation management work is \$316,000. The sideline pruning and hazard tree work is the most costly and is based on a price of approximately \$20,000 per mile for off-road work, and \$4,000 per mile for on road work. Floor treatment cost is approximately \$650 per acre.

**Chart 3**

**Sub-Transmission Vegetation Management Miles/Acres**

<b>Sideline Pruning and Hazard Tree Removal (Miles)</b>				
<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
20.76	12.1	28.51	59.52	34.09
<b>Floor Treatment (Acres)</b>				
<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
234.48	88.67	100.68	222.05	214.97

**Police Detail/Flagman** - To safely perform the Cycle Pruning and EHTM, the Company must hire police details and flagman. The levels of required details vary by town and traffic/road condition. This portion of the VM budget is driven by the work locations and on the hourly rates set by the municipalities. In an effort to reduce costs through clarity and create more accurate

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reporting, police costs for our cycle pruning program were removed from the vendor bidding process and placed exclusively into the police and flagging budget accounts. In addition to this, some towns are now requiring police officers instead of flaggers. Because of these factors, National Grid expects to be about \$100,000 over the initial estimate for police details in FY 2014. FY 2015 police costs are estimated to be \$650,000 for the year.

**Core Activities** - The Company performs several other essential VM activities to efficiently maintain the safety and reliability of the network and to address customer needs. In contrast to Cycle Pruning or EHTM, the Company has very little discretion over the timing of these activities. This work includes responding to customer requests for vegetation-related work due to safety and reliability concerns. It also includes response to requests for interim or spot trimming by circuit patrols in locations where vegetation growth has exceeded normal conditions or where the patrols have identified other vegetation-related reliability concerns. Responding to sporadic emergency calls to remove trees or limbs from wires and to perform vegetation work necessary to restore power to customers is another important core activity performed by forestry crews. Spending for each core activity varies from year-to-year depending on the customer calls, weather, and system requirements. Each core activity separately consumes a small and variable proportion of the overall budget. The expected spend for this category for FY 2015 is \$1.285 million, which is based on a three percent inflation factor.

**Fiscal Year 2015 Vegetation Management Budget**

As detailed in Chart 4 below, the Electric ISR Plan proposes to spend approximately \$7.726 million for VM in FY 2015, an 8.8 percent decrease from the amount requested and approved for FY 2014.

**Chart 4**

**Vegetation Management Spending  
(\$000)**

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
				<b>Projected</b>	<b>Proposed</b>
Cycle Prune (Base)	\$2,732	\$5,451	\$4,764	\$5,180	\$4,475
Hazard Tree – EHTM	\$235	\$806	\$1,198	\$750	\$1,000
Sub-T (off & on road)	\$235	\$392	\$243	\$674	\$316
Police/Flagman Detail	\$215	\$461	\$766	\$625	\$650
All Other Activities (incl. Interim/Spot Trim, Customer Requests, Emergency Response, Worst Feeders, etc.)	\$1,189	\$1,066	\$1,276	\$1,247	\$1,285
<b>Total</b>	<b>\$4,606</b>	<b>\$8,176</b>	<b>\$8,247</b>	<b>\$8,476</b>	<b>\$7,726</b>

The entire FY 2015 budget of \$7.726 million pertains to VM spending necessary for the safety and service reliability of the Company's electric system.

With respect to the issues with Verizon, after a number of discussions between National Grid and Verizon personnel on a variety of topics, in March of 2013, the Company submitted a written proposal to Verizon that established a new arrangement designed to specifically identify

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the responsibilities of both parties for the payment of both routine and storm trimming costs.<sup>15</sup> While the parties have traded written proposals, we still remain far apart on a number of major issues. The Company is committed to continued negotiations and discussions with Verizon on the responsibilities of both parties for the payment of both routine and storm trimming costs, as well as other issues relative to the joint ownership of poles. While the Division and the Company are in agreement with the appropriate level of spending on the vegetation management budget in the FY 2015 ISR, the issue of Verizon payments remains an open item. As the ISR process includes an annual reconciliation mechanism, to the extent the Company is able to reach a resolution of issues with Verizon, at that time, any revenues received for tree trimming from Verizon will be credited to customers in the next annual ISR reconciliation filing.

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<sup>15</sup> It should be noted that major storm tree trimming and removal costs are not included in the ISR, but as part of the storm fund cost recovery proceedings.

**Exhibit 1 – JLG & RM  
Section 4  
I&M Plan**

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Section 4: Inspection & Maintenance Plan

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## **Section 4**

### **Inspection and Maintenance Plan**

#### **FY 2015 Electric ISR Plan**

### **Inspection and Maintenance Program FY 2015 Proposal**

Consistent with the Company's condition based asset management approach, the Company has implemented an inspection and maintenance ("I&M") program ("I&M Program"). To date, the Company has inspected 50 percent of its overhead distribution system.

The goal of the I&M Program is to achieve a five-year cycle in which all feeders are inspected and have repairs completed. The proposed spending for FY 2015 represents an increase in spending over last year. The plan for FY 2015 represents a continued ramp up such that items identified as deteriorated are replaced within a five-year period and certain items that do not represent deterioration concerns, such as additional equipment grounding, may be addressed over a 15-year horizon. The Company believes the extended horizon for the equipment grounding, primarily on down guys, is acceptable as there have been no reported incidents of elevated voltages found during contact voltage testing. The Company is currently piloting several complete feeders to gauge the efficiency of completing all of the work on a feeder at once without having to remobilize construction resources.

In addition to continuing overhead distribution system inspections, the FY 2015 I&M Program will ramp up inspections of its sub-transmission system and its manhole-based underground assets. The goal for sub-transmission assets is to be on a five-year inspection cycle. The initial step for underground inspections is to formally document on-going working inspections for the first several years of the program. For FY 2015, the Company has proposed mobile elevated voltage testing of 20% of the "Designated Contact Voltage Risk Areas"

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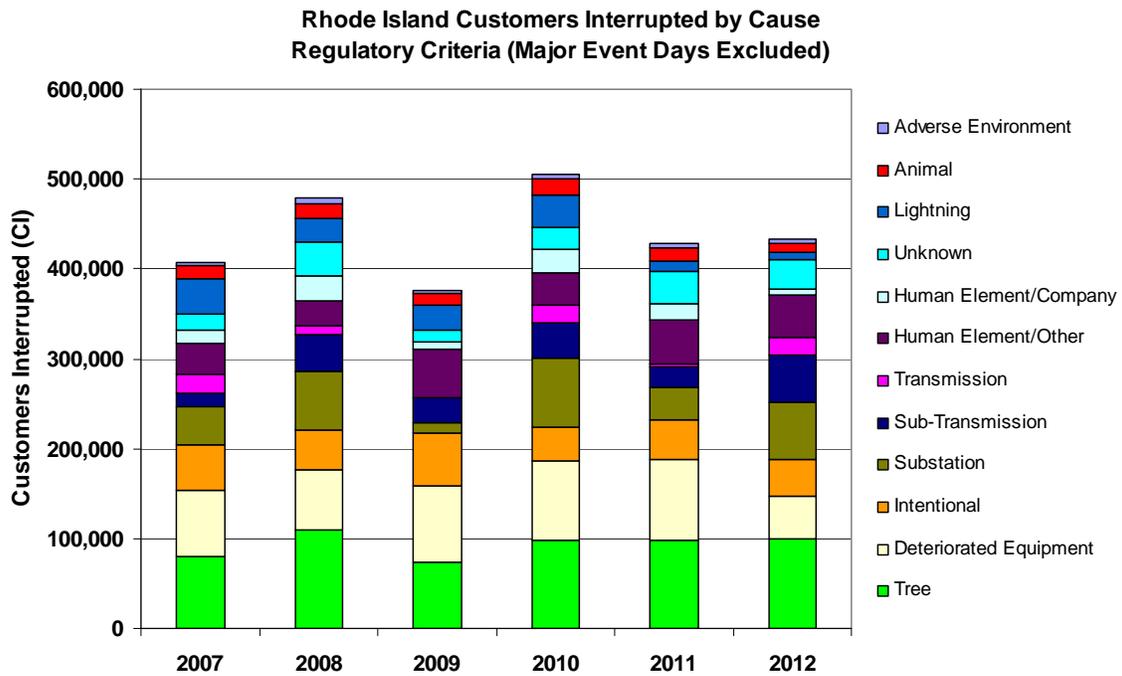
designated in Docket No. 4237-A. These costs are included in the FY 2015 proposal, and will be adjusted if necessary based on any changes in that proceeding.

The primary driver of the I&M program is to address deteriorated assets to ensure the distribution and sub-transmission system is safe, reliable and environmentally sound. Asset replacement prior to failure provides incremental safety benefits for both the public and our employees. Implementation of this program should minimize potential safety issues related to contact voltage on publicly accessible Company-owned distribution and sub-transmission overhead and underground line facilities. This program also provides for the avoidance of potential environmental problems such as insulating fluid leaks/spills from assets such as transformers and capacitor banks. The program is intended to satisfy section 214 of the National Electric Safety Code (“NESC”), which outlines inspection of equipment guidelines for electric utilities.

In addition to addressing deteriorated assets, the data collected during the inspections enhances the Company’s Asset Management reviews and the development of projects and programs to maintain reliability performance and customer satisfaction. Indeed, as shown in Chart 1 below, deteriorated equipments continues to be one of the main causes of customer interruptions.

**Chart 1**

**Customer Interruptions by Cause**



The Company believes that the I&M Program is essential to fulfilling its obligation to provide safe, reliable, and cost effective electric delivery service to customers in Rhode Island and the Company has agreed with the Division to assess the costs and benefits of the Inspection and Maintenance Program on an ongoing basis.

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The Company's proposal for each of the program components are as follows:

- Distribution overhead I&M repairs will be fully ramped up to the five-year repair cycle occurring in FY 2015, with the possible exception of certain grounding items.
- Sub-transmission overhead I&M in FY 2015 with inspections, engineering, and limited repairs.
- Underground I&M inspections will continue to be performed as part of normal working inspections for the next several years of the program. Repairs will commence in FY 2016, other than for immediate issues. The Company will track results of the inspections in FY 2015.
- Overhead Manual Contact Voltage testing will be performed as part of the cycle inspections.
- Underground Manual Contact Voltage testing will continue on the five-year cycle.
- Street Light Manual Contact Voltage testing will continue on a three-year cycle.
- Mobile Contact Voltage Testing for the FY 2015 ISR will test 20% of the designated contact voltage risk areas.

**Fiscal Year 2015 Inspection and Maintenance Budget**

As shown in Chart 2 below, the Company proposes a total I&M Program budget of approximately \$13.0 million for FY 2015. The associated capital costs for this program are \$7.0 million, and are included in the capital budgets provided in Section 2 of this Electric ISR Plan. The O&M components of the I&M program total approximately \$3.0 million. The I&M program includes a component for a Contact Voltage Program as ordered in Docket No. 4237. In addition, the Company and the Division have agreed to include \$250,000 for a long range

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system capacity load analysis study in FY 2015. This study will identify distribution system performance concerns within a planning horizon of no less than 10 years. The study analysis scope and outputs will be agreed upon with the Division. Study costs are not to exceed \$250,000 in FY 2015. The combination of analysis detail and study cost will ultimately determine the portion of the Company's system that can be reviewed.

**Chart 2**

**Inspection and Maintenance Program Costs**

	<b>Total</b>
<b>Capital Costs (see note 1)</b>	<b>\$7,040,000</b>
<i>Opex Related to Capex</i>	<i>\$1,811,000</i>
<i>Inspections and Repair Related Costs</i>	<i>\$934,000</i>
<i>Long Range Plan Study</i>	<i>\$250,000</i>
<b>Total Operation and Maintenance Expenses</b>	<b>\$2,995,000</b>
<b>Removal Costs</b>	<b>\$2,710,000</b>
<b>Total Program Costs</b>	<b>\$12,745,000</b>

Note 1: Capital costs are included in the total capital cost of \$65.9 million as discussed in Section 2.

**Exhibit 1 – JIG & RM  
Section 5  
Revenue Req.**

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## **Section 5**

Revenue Requirement

FY 2015 Electric ISR Plan

**Revenue Requirement  
FY 2015 Proposal**

The attached proposed revenue requirement calculation reflects the revenue requirement related to the Company's proposed investment in its Electric Infrastructure, Safety, and Reliability ("ISR") Plan ("ISR Plan") for the fiscal year ("FY") ended March 31, 2015.

As shown on Page 1, Column (b) of Attachment 1 to this Section, the Company's FY 2015 Electric ISR Plan revenue requirement amounts to \$12,250,308 and consists of the following elements: (1) operation and maintenance ("O&M") expense associated with the Company's vegetation management ("VM") activities, and the Company's Inspection and Maintenance ("I&M") Program, and (2) the Company's capital investment in electric utility infrastructure. Lines 1 and 2 of that column reflect the forecasted FY 2015 revenue requirement related to O&M expenses for VM and I&M of \$7,726,000 and \$2,831,251, respectively.

The FY 2015 revenue requirement associated with the Company's incremental capital investment in electric utility infrastructure of \$1,693,058 is shown on Line 8, consisting of the \$2,105,152 revenue requirement on FY 2015 proposed incremental ISR capital investment, as calculated on Attachment 1, Page 2, plus the FY 2014, FY 2013, and FY 2012 revenue requirements on incremental ISR capital investment of \$1,014,081, \$(1,359,559), and \$(66,617), from Pages 4, 6 and 8, respectively. Incremental electric capital investment for this purpose is defined as cumulative allowed capital plus cost of removal, less annual depreciation expense embedded in the Company's base rates, net of depreciation expense attributable to general plant.

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The total annual FY 2015 Electric ISR Plan revenue requirement for both O&M expenses and capital investment is \$12,250,308, as reflected in Column (b) on Line 9, and is equal to the sum of Lines 3 and 8.

For illustration purposes only, Column (c) of Page 1 provides the FY 2016 revenue requirement for the respective vintage year capital investments as calculated on Attachment 1, Pages 2, 4, 6 and 8. It is important to note that these amounts will be trued up to actual investment activity after the conclusion of the FY, with rate adjustments for the revenue requirement differences incorporated in future ISR filings.

### **Operation and Maintenance Expenses**

As previously noted, the Company's FY 2015 Electric ISR Plan revenue requirement includes \$7,726,000 of VM and \$2,831,251 of I&M expenses as shown on Page 1, Lines 1 and 2 in Column (b) of the attachment. As described in Sections 1 and 4 of this Plan, the Electric ISR Plan includes the recovery of O&M inspection and maintenance costs associated with the Company's Contact Voltage Detection and Repair Program ("Contact Voltage Program"), mandated by R.I.G.L. §39- 2-25 and approved by the Commission in Docket No. 4237<sup>16</sup>. The recovery of Contact Voltage Program costs are net of \$163,749 of voltage monitoring costs included in base rates in the Company's base rate request in Docket No. 4323.

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<sup>16</sup> R.I.G.L. §39-2-25(6)(c).

## **Electric Infrastructure Investment**

### Incremental Capital Investment

Page 2 of the Attachment 1 to this Section calculates the revenue requirement of incremental capital investment associated with the Company's FY 2015 Electric ISR Plan; that is, electric infrastructure investment (net of general plant) incremental to the amounts embedded in the Company's base distribution rates. The proposed capital investment and cost of removal were obtained from the "FY 2015 Proposed Plant in Service" column on Chart 6 of Section 2 of this plan. The FY 2015 revenue requirement also includes the incremental capital investment associated with the Company's FY 2014, FY 2013, and FY 2012 Electric ISR Plans, excluding investments reflected in rate base in Docket No. 4323 for each of those fiscal years as shown on pages 4, 6 and 8, respectively. Page 10 of Attachment 1 calculates the incremental FY 2012 through FY 2014 ISR capital investment and the related incremental cost of removal and incremental retirements for the FY 2015 electric ISR revenue requirement. The calculations on Page 10 compare ISR-eligible capital investment, cost of removal and retirements for FY 2012 through FY 2014, to the corresponding amounts reflected in Docket No. 4323.

For purposes of calculating the capital-related revenue requirement, investments in electric infrastructure have been divided into two categories: "nondiscretionary" capital investments, which principally represent the Company's commitment to meet statutory and/or regulatory obligations, and "discretionary" capital investments, which represent all other electric infrastructure-related capital investment falling outside of the specifically defined

“nondiscretionary” categories. This ISR plan limits the amount of eligible discretionary capital investments made since April 1, 2011 to the lesser of cumulative discretionary capital additions, or the cumulative amount of discretionary project spend as agreed to by the Division and as approved by the Commission since the April 1, 2011 effective date of this ISR mechanism. This limitation on discretionary capital investment will be analyzed as a part of the aforementioned annual reconciliation of the proposed ISR investment to actual investment activity after the conclusion of the fiscal year.

#### Electric Infrastructure Revenue Requirement

The revenue requirement calculation on incremental electric infrastructure investment for vintage year FY 2015 is shown on Page 2 of Attachment 1. The revenue requirement calculation incorporates the incremental Electric ISR Plan capital investment, cost of removal and retirements, which is the basis for determining the three components of the revenue requirement: (1) the return on investment (i.e. average ISR Plan rate base at the weighted average cost of capital); (2) depreciation expense; and (3) property taxes. The calculation on Page 2 begins with the determination of the depreciable net incremental capital that will be included in the ISR Plan rate base. Because depreciation expense is affected by plant retirements, retirements have been deducted from the total allowed capital included in ISR Plan rate base in determining depreciation expense. Retirements however, do not affect rate base as both “plant in service” and the “depreciation reserve” are reduced by the installed value of the plant being retired and therefore have no impact on net plant. For purposes of calculating the revenue requirement,

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plant retirements have been estimated based on the percentage of retirements to additions during FY 2012 and FY 2013, and have been deducted from the total depreciable capital amount as shown on Lines 4 through 6. Incremental book depreciation expense on Line 15 is computed based on the net depreciable additions, from Line 6 at the 3.40 percent composite depreciation rate as approved in Docket No. 4065<sup>17</sup>, and as shown on Line 12. The Company has assumed a half year convention for the year of installation. Unlike retirements, cost of removal affects rate base but not depreciation expense. Consequently, the cost of removal, as shown on Line 10, is combined with the incremental depreciable amount from Line 9 (vintage year ISR Plan allowable capital additions less non-general plant depreciation expense included in base distribution rates) to arrive at the incremental investment on Line 11 to be included in the rate base upon which the return component of the annual revenue requirement is calculated.

The rate base calculation incorporates net plant from Line 11, and accumulated depreciation and accumulated deferred tax reserves as shown on Lines 16 and 19, respectively. The deferred tax amount arising from the capital investment, as calculated on Lines 17 through 19, equals the difference between book depreciation and tax depreciation on the capital investment, times the effective tax rate. The calculation of tax depreciation is described below. The average change in rate base is shown on Line 24. This amount is multiplied by the pre-tax rate of return approved by the Commission in Docket No. 4323, as shown on Line 25, to compute the return and tax portion of the incremental revenue requirement, as shown on Line 26.

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<sup>17</sup> The Commission did not change depreciation rates in the Company's base rate filing in Docket No. 4323.

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To this, incremental depreciation expense is added on Line 27, as are property taxes on Line 28, which are computed at the 3.98 percent effective property tax rate as agreed to in the Settlement Agreement approved by the Commission in Docket No. 4323. The sum of these three amounts reflects the annual revenue requirement associated with the capital investment portion of the Company's Electric ISR Plan on Line 29, which is carried forward to Page 1, Line 7, as part of the total Electric ISR Plan revenue requirement. Similar revenue requirement calculations for the vintage FY 2014, FY 2013, and FY 2012 incremental ISR Plan capital investments are shown on Pages 4, 6, & 8, respectively. These capital investment revenue requirement amounts are added to the total O&M expenses on Line 3, Page 1, to derive the total FY 2015 Electric ISR Plan revenue requirement of \$12,250,308 as shown on Line 9, and represents an incremental \$116,814 increase from the FY 2014 Electric ISR Plan revenue requirement, as shown on Line 10.

**Tax Depreciation Calculation**

The tax depreciation calculations for FY 2015, FY 2014, FY 2013, and FY 2012 are provided on Pages 3, 5, 7, and 9 of Attachment 1, respectively. The tax depreciation amount assumes that a portion of the capital investment, as shown on Line 1 of those pages, will be eligible for immediate deduction on the Company's corresponding FY federal income tax return.

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This immediate deductibility is referred to as the capital repairs deduction<sup>18</sup>. In addition, plant additions not subject to the capital repairs deduction may be subject to bonus depreciation as shown on Lines 4 through 12 on Pages 5, 7, and 9. The Company assumes no bonus depreciation for FY 2015. During 2010, Congress passed the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (the “Act”), which provided for an extension of bonus depreciation. Specifically, the Act provides for the application of 100 percent bonus depreciation for investment constructed and placed into service after September 8, 2010 through December 31, 2011, and then 50 percent bonus depreciation for similar capital investment placed into service after December 31, 2011 through December 2012. The 50% bonus depreciation rate was later extended through December 31, 2013.<sup>19</sup> Finally, the remaining plant additions not deducted as bonus depreciation are then subject to the IRS Modified Accelerated Cost-Recovery System, or MACRS, tax depreciation rate. The amount of depreciation deducted for MACRS is added to the amount of capital repairs deduction

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<sup>18</sup> During 2009, the Internal Revenue Service (“IRS”) issued additional guidance, under Internal Revenue Code Section 162, related to certain work considered to be repair and maintenance expense, and eligible for immediate tax deduction for income tax purposes, but capitalized by the Company for book purposes. As a result of this additional guidance, the Company recorded a one-time tax expense for repair and maintenance costs in its FY 2009 federal income tax return filed on December 11, 2009 by National Grid Holdings, Inc. Since that time, the Company has taken a capital repairs deduction on all subsequent FY tax returns. This has formed the basis for the capital repairs deduction assumed in the Company’s revenue requirement. This tax deduction has the effect of increasing deferred taxes and lowering the revenue requirement that customers will pay under the capital investment reconciliation mechanism. The Company’s federal income tax returns are subject to audit by the IRS. If it is determined in the future that the Company’s position on its tax returns on this matter was incorrect, the Company will reflect any related IRS disallowances, plus any associated interest assessed by the IRS, in a subsequent reconciliation filing under the ISR Plan.

<sup>19</sup> The Company anticipates that the IRS will issue further guidance on this issue and, to the extent such guidance differs from the Company’s interpretation of the 2010 Act, will reflect any resulting differences in a subsequent reconciliation filing under the ISR Plan.

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plus the bonus depreciation deduction and cost of removal to arrive at total tax depreciation.

These annual total tax depreciation amounts are carried forward to Line 13 and Line 11 of Attachment 1, Pages 2, 4, 6, and 8, for the respective years, and incorporated in the deferred tax calculation.

**The Narragansett Electric Company  
d/b/a National Grid  
Electric Infrastructure, Safety, and Reliability (ISR) Plan  
Annual Revenue Requirement Summary**

Line No.		As approved Fiscal Year <u>2014</u> (a)	Fiscal Year <u>2015</u> (b)	Fiscal Year <u>2016</u> (c)
	<b><u>Operation and Maintenance (O&amp;M) Expenses</u></b>			
1	Forecasted Vegetation Management (VM)	\$8,476,000	\$7,726,000	
2	Forecasted Inspection & Maintenance (I&M) O&M Expense	\$3,615,251	\$2,831,251	
3	<b>O&amp;M Expense Component of Revenue Requirement Subtotal</b>	<b>\$12,091,251</b>	<b>\$10,557,251</b>	
	<b><u>Capital Investment</u></b>			
4	Actual Revenue Requirement on Incremental FY 2012 Capital included in ISR Rate Base	(\$60,950)	(\$66,617)	(\$66,242)
5	Actual Revenue Requirement on Incremental FY 2013 Capital included in ISR Rate Base	\$0	(\$1,359,559)	(\$1,308,163)
6	Forecasted Annual Revenue Requirement on FY 2014 Capital included in ISR Rate Base	\$103,194	\$1,014,081	\$964,767
7	Forecasted Annual Revenue Requirement on FY 2015 Capital included in ISR Rate Base	\$0	\$2,105,152	\$5,417,138
8	<b>Capital Investment Component of Revenue Requirement Subtotal</b>	<b>\$42,244</b>	<b>\$1,693,058</b>	<b>\$5,007,500</b>
9	<b>Total Fiscal Year Revenue Requirement</b>	<b>\$12,133,495</b>	<b>\$12,250,308</b>	<b>\$5,007,500</b>
10	<b>Total Incremental Fiscal Year Rate Adjustment</b>		<b>\$116,814</b>	<b>NA</b>

Line Notes:

Column (a) - as Approved per R.I.P.U.C. Docket No. 4382

Column (b)

- 1 Projected Vegetation Management
- 2 Page 11, Line 3
- 3 Line 1 + Line 2
- 4 Page 8, Line 27
- 5 Page 6, Line 29
- 6 Page 4, Line 29
- 7 Page 2, Line 29
- 8 Line 4 through Line 7
- 9 Line 3 + Line 8
- 10 Current Year Line 9 - Prior Year Line 9

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d/b/a National Grid  
Computation of Electric Capital Investment Revenue Requirement  
FY 2015 Investment

Line No.			Fiscal Year 2015 (a)	Fiscal Year 2016 (b)
<u>Capital Additions Allowance</u>				
<i>Non-Discretionary Capital</i>				
1	Non-Discretionary Additions	Section 2 Page 37, Chart 6	\$25,495,000	\$0
<i>Discretionary Capital</i>				
2	Lesser of Actual Cumulative Discretionary Capital Additions or Spending, or Approved Spending	Section 2 Page 37, Chart 6	\$43,443,000	\$0
3	Total Allowed Capital Included in Rate Base	Line 1 + Line 2	\$68,938,000	\$0
<u>Depreciable Net Capital Included in Rate Base</u>				
4	Total Allowed Capital Included in Rate Base in Current Year	Line 3	\$68,938,000	\$0
5	Retirements	Line 4 * 23.58%	\$16,255,580	\$0
6	Net Depreciable Capital Included in Rate Base	Column (a) = Line 4 - Line 5; Column (b) = Prior Year Line 6	\$52,682,420	\$52,682,420
<u>Change in Net Capital Included in Rate Base</u>				
7	Capital Included in Rate Base	Line 3	\$68,938,000	\$0
8	Depreciation Expense	Per Settlement Agreement Docket No. 4323, excluding General Plant	\$43,031,774	\$0
9	Incremental Depreciable Amount	Column (a) = Line 7 - Line 8; Column (b) = Prior Year Line 9	\$25,906,226	\$25,906,226
10	Total Cost of Removal	Section 2 Page 37, Chart 6	\$8,400,000	\$8,400,000
11	<b>Total Net Plant in Service</b>	<b>Line 9 + Line 10</b>	<b>\$34,306,226</b>	<b>\$34,306,226</b>
<u>Deferred Tax Calculation:</u>				
12	Composite Book Depreciation Rate	As approved per R.I.P.U.C. Docket No. 4065	3.40%	3.40%
13	Tax Depreciation	Page 3 Line 10	\$24,952,445	\$3,929,053
14	Cumulative Tax Depreciation	Prior Year Line 13 + Current Year Line 14	\$24,952,445	\$28,881,498
15	Book Depreciation	Column (a) = Line 6 * Line 12 * 50%; Column (b) = Line 6 * Line 12	\$895,601	\$1,791,202
16	Cumulative Book Depreciation	Prior Year Line 16 + Current Year Line 15	\$895,601	\$2,686,803
17	Cumulative Book / Tax Timer	Line 14 - Line 16	\$24,056,844	\$26,194,695
18	Effective Tax Rate		35.00%	35.00%
19	Deferred Tax Reserve	Line 17 * Line 18	\$8,419,895	\$9,168,143
<u>Rate Base Calculation:</u>				
20	Cumulative Incremental Capital Included in Rate Base	Line 11	\$34,306,226	\$34,306,226
21	Accumulated Depreciation	- Line 16	(\$895,601)	(\$2,686,803)
22	Deferred Tax Reserve	- Line 19	(\$8,419,895)	(\$9,168,143)
23	Year End Rate Base	Sum of Lines 20 through 22	\$24,990,730	\$22,451,280
<u>Revenue Requirement Calculation:</u>				
24	Average Rate Base	(Prior Year Line 23 + Current Year Line 23) ÷ 2	\$12,495,365	\$23,721,005
25	Pre-Tax ROR		9.68%	9.68%
26	Return and Taxes	Line 24 * Line 25	\$1,209,551	\$2,296,193
27	Book Depreciation	Line 15	\$895,601	\$1,791,202
28	Property Taxes	\$0 in Year 1, then Prior Year (Line 11-Line 16) * Property Tax Rate	\$0	\$1,329,743
29	<b>Annual Revenue Requirement</b>	<b>Sum of Lines 26 through 31</b>	<b>\$2,105,152</b>	<b>\$5,417,138</b>

1/ Assumes 23.58% based on the average of FY 2013 & FY 2012 retirements as a percent of capital investment

2/ Weighted Average Cost of Capital per Settlement Agreement R.I.P.U.C. Docket No. 4323

	Ratio	Rate	Rate	Taxes	Return
Long Term Debt	49.95%	4.96%	2.48%		2.48%
Short Term Debt	0.76%	0.79%	0.01%		0.01%
Preferred Stock	0.15%	4.50%	0.01%		0.01%
Common Equity	49.14%	9.50%	4.67%	2.51%	7.18%
	100.00%		7.17%	2.51%	9.68%

3/ Assumes an Effective Property Tax Rate of 3.98% subject to the true up per Settlement Agreement R.I.P.U.C. Docket No.4323

**The Narragansett Electric Company**  
**d/b/a National Grid**  
**Calculation of Tax Depreciation**  
**On FY 2015 Capital Investment**

Line No.			Fiscal Year <u>2015</u> (a)	Fiscal Year <u>2016</u> (b)
	<u>Capital Repairs Deduction</u>			
1	Plant Additions	Page 2 Line 3	\$68,938,000	
2	Capital Repairs Deduction Rate	Per Tax Department	1/ 21.05%	
3	Capital Repairs Deduction	Line 2 * Line 3	<u>\$14,511,449</u>	
	<u>Remaining Tax Depreciation</u>			
4	Plant Additions	Line 1	\$68,938,000	
5	Less Capital Repairs Deductions	Line 3	\$14,511,449	
6	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 4 - Line 5	\$54,426,551	\$54,426,551
7	20 YR MACRS Tax Depreciation Rates		<u>3.750%</u>	<u>7.219%</u>
8	Remaining Tax Depreciation	Line 6 * Line 7	<u>\$2,040,996</u>	<u>\$3,929,053</u>
9	Cost of Removal	Page 2 Line 10	\$8,400,000	
10	Total Tax Depreciation and Repairs Deduction	Lines 3 + Line 8 + Line 9	<u><u>\$24,952,445</u></u>	<u><u>\$3,929,053</u></u>

1/ Capital Repairs percentage is based on a three year average, 2010, 2011 and 2012 of electric property qualifying for the repairs deduction as a percentage of total annual plant additions.

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Computation of Electric Capital Investment Revenue Requirement  
FY 2014 Investment

Line No.			Fiscal Year	Fiscal Year	Fiscal Year
			2014 (a)	2015 (b)	2016 (c)
<u>Capital Additions Allowance</u>					
<i>Non-Discretionary Capital</i>					
1	Non-Discretionary Additions		\$2,446,833	\$0	\$0
<i>Discretionary Capital</i>					
2	Lesser of Actual Cumulative Discretionary Capital Additions or Spending, or Approved Spending		\$8,120,883	\$0	\$0
3	Total Allowed Capital Included in Rate Base	Line 1 + Line 2	\$10,567,716	\$0	\$0
<u>Depreciable Net Capital Included in Rate Base</u>					
4	Total Allowed Capital Included in Rate Base in Current Year	Line 3	\$10,567,716	\$0	\$0
5	Retirements	Page 10 Line 9, Column (c)	\$1,670,756	\$0	\$0
6	Net Depreciable Capital Included in Rate Base	Column (a) = Line 4 - Line 5; Columns (b) & (c) = Prior Year Line 6	\$8,896,960	\$8,896,960	\$8,896,960
<u>Change in Net Capital Included in Rate Base</u>					
7	Capital Included in Rate Base	Line 3	\$10,567,716	\$0	\$0
8	Depreciation Expense	Per Settlement Agreement Docket No. 4323, excluding General Plant	\$7,173,397	\$0	\$0
9	Incremental Depreciable Amount	Column (a) = Line 7 - Line 8; Columns (b) & (c) = Prior Year Line 9	\$3,394,319	\$3,394,319	\$3,394,319
10	Total Cost of Removal	Page 10 Line 6, Column (c)	\$3,649,167	\$3,649,167	\$3,649,167
11	<b>Total Net Plant in Service</b>	<b>Line 9 + Line 10</b>	<b>\$7,043,486</b>	<b>\$7,043,486</b>	<b>\$7,043,486</b>
<u>Deferred Tax Calculation:</u>					
12	Composite Book Depreciation Rate	As approved per R.I.P.U.C. Docket No. 4065	3.40%	3.40%	3.40%
13	Tax Depreciation	Page 5 Line 20, Column (a)	\$6,758,360	\$559,409	\$517,408
14	Cumulative Tax Depreciation	Prior Year Line 13 + Current Year Line 14	\$6,758,360	\$7,317,769	\$7,835,177
15	Book Depreciation	Column (a) = Line 6 * Line 12 * 50% * 1/2; Columns (b) & (c) = Line 6 * Line 12	\$25,208	\$302,497	\$302,497
16	Cumulative Book Depreciation	Prior Year Line 16 + Current Year Line 15	\$25,208	\$327,705	\$630,202
17	Cumulative Book / Tax Timer	Line 14 - Line 16	\$6,733,152	\$6,990,064	\$7,204,976
18	Effective Tax Rate		35.00%	35.00%	35.00%
19	Deferred Tax Reserve	Line 17 * Line 18	\$2,356,603	\$2,446,522	\$2,521,742
<u>Rate Base Calculation:</u>					
20	Cumulative Incremental Capital Included in Rate Base	Line 11	\$7,043,486	\$7,043,486	\$7,043,486
21	Accumulated Depreciation	- Line 16	(\$25,208)	(\$327,705)	(\$630,202)
22	Deferred Tax Reserve	- Line 19	(\$2,356,603)	(\$2,446,522)	(\$2,521,742)
23	Year End Rate Base	Sum of Lines 20 through 22	\$4,661,675	\$4,269,258	\$3,891,543
<u>Revenue Requirement Calculation:</u>					
24	Average Rate Base	Column (a) = Page 12 Line 15 * Line 23; Columns (b) & (c) = (Prior Year Line 23 + Current Year Line 23) ÷ 2	\$757,300	\$4,465,467	\$4,080,401
25	Pre-Tax ROR		9.68%	9.68%	9.68%
26	Return and Taxes	Line 24 * Line 25	\$73,307	\$432,257	\$394,983
27	Book Depreciation	Line 15	\$25,208	\$302,497	\$302,497
28	Property Taxes	\$0 in Year 1, then Prior Year (Line 11-Line 16) * Property Tax Rate	\$0	\$279,327	\$267,288
29	<b>Annual Revenue Requirement</b>	<b>Sum of Lines 26 through 28</b>	<b>\$98,515</b>	<b>\$1,014,081</b>	<b>\$964,767</b>

1/ Depreciation Expense has been prorated for 2 months (February - March 2014)

2/ Weighted Average Cost of Capital per Settlement Agreement R.I.P.U.C. Docket No. 4323

	Ratio	Rate	Rate	Taxes	Return
Long Term Debt	49.95%	4.96%	2.48%		2.48%
Short Term Debt	0.76%	0.79%	0.01%		0.01%
Preferred Stock	0.15%	4.50%	0.01%		0.01%
Common Equity	49.14%	9.50%	4.67%	2.51%	7.18%
	100.00%		7.17%	2.51%	9.68%

3/ Assumes an Effective Property Tax Rate of 3.98% subject to the true up per Settlement Agreement R.I.P.U.C. Docket No.4323

**The Narragansett Electric Company  
d/b/a National Grid  
Calculation of Tax Depreciation  
On FY 2014 Capital Investment**

Line No.			Fiscal Year <u>2014</u> (a)	Fiscal Year <u>2015</u> (b)	Fiscal Year <u>2016</u> (c)
	<u>Capital Repairs Deduction</u>				
1	Plant Additions	Page 4 Line 3	\$10,567,716		
2	Capital Repairs Deduction Rate	Per Tax Department	1/ 21.05%		
3	Capital Repairs Deduction	Line 2 * Line 3	\$2,224,504		
	<u>Bonus Depreciation</u>				
4	Plant Additions		\$10,567,716		
5	Less Capital Repairs Deduction		\$2,224,504		
6	Plant Additions Net of Capital Repairs Deduction		\$8,343,212		
7	Percent of Incremental Plant Investment incurred in CY 2013	Page 12, Line 16	14.24%		
8	CY 2013 Incremental Plant Investment		\$1,188,193		
9	Percent of Plant Eligible for Bonus Depreciation		100.00%		
10	Plant Eligible for Bonus Depreciation		\$1,188,193		
11	Bonus Depreciation Rate	Per Tax Department	50.00%		
12	Bonus Depreciation		\$594,097		
	<u>Remaining Tax Depreciation</u>				
13	Plant Additions	Line 1	\$10,567,716		
14	Less Capital Repairs Deductions	Line 3	\$2,224,504		
15	Less Bonus Depreciation		\$594,097		
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 4 - Line 5	\$7,749,115	\$7,749,115	\$7,749,115
17	20 YR MACRS Tax Depreciation Rates		3.750%	7.219%	6.677%
18	Remaining Tax Depreciation	Line 6 * Line 7	\$290,592	\$559,409	\$517,408
19	Cost of Removal	Page 4 Line 10	\$3,649,167		
20	Total Tax Depreciation and Repairs Deduction	Lines 3 + Line 8 + Line 9	\$6,758,360	\$559,409	\$517,408

1/ Capital Repairs percentage is based on a three year average, 2010, 2011 and 2012 of electric property qualifying for the repairs deduction as a percentage of total annual plant additions.

The Narragansett Electric Company  
d/b/a National Grid  
Computation of Electric Capital Investment Revenue Requirement  
FY 2013 Investment

Line No.		Fiscal Year 2013 (a)	Fiscal Year 2014 (b)	Fiscal Year 2015 (c)	Fiscal Year 2016 (d)
	<u>Capital Additions Allowance</u>				
	<i>Non-Discretionary Capital</i>				
1	Non-Discretionary Additions	(\$5,184,396)	\$0	\$0	\$0
	<i>Discretionary Capital</i>				
2	Lesser of Actual Discretionary Capital Additions or Spending or Approved Spending	(\$1,850,463)	\$0	\$0	\$0
3	Total Allowed Capital Included in Rate Base in Current Year	Line 1 + Line 2 (\$7,034,859)	\$0	\$0	\$0
	<u>Depreciable Net Capital Included in Rate Base</u>				
4	Total Allowed Capital Included in Rate Base in Current Year	Line 3 (\$7,034,859)	\$0	\$0	\$0
5	Retirements	\$5,838,935	\$0	\$0	\$0
6	Net Depreciable Capital Included in Rate Base	Column (a) = Line 4 - Line 5; Columns (b), (c), & (d) = Prior Year Line 6 (\$12,873,794)	(\$12,873,794)	(\$12,873,794)	(\$12,873,794)
	<u>Change in Net Capital Included in Rate Base</u>				
7	Capital Included in Rate Base	Line 3 (\$7,034,859)	\$0	\$0	\$0
8	Depreciation Expense	As approved per R.I.P.U.C. Docket No. 4065, excluding \$0	\$0	\$0	\$0
9	Incremental Depreciable Amount	Column (a) = Line 7 - Line 8; Columns (b), (c) & (d) = Prior Year Line 9 (\$7,034,859)	(\$7,034,859)	(\$7,034,859)	(\$7,034,859)
10	Total Cost of Removal	(\$1,895,059)	(\$1,895,059)	(\$1,895,059)	(\$1,895,059)
11	<b>Total Net Plant in Service</b>	<b>Line 9 + Line 10 (\$8,929,918)</b>	<b>(\$8,929,918)</b>	<b>(\$8,929,918)</b>	<b>(\$8,929,918)</b>
	<u>Deferred Tax Calculation:</u>				
12	Composite Book Depreciation Rate	As approved per R.I.P.U.C. Docket No. 4065 3.40%	3.40%	3.40%	3.40%
13	Tax Depreciation	Page 7 Line 20 (\$6,086,076)	(\$213,296)	(\$197,281)	(\$182,508)
14	Cumulative Tax Depreciation	Prior Year Line 17 + Current Year Line 16 (\$6,086,076)	(\$6,299,372)	(\$6,496,653)	(\$6,679,162)
15	Book Depreciation	Column (a) = Line 6 * Line 12 * 50%; Columns (b), (c) & (d) = Line 6 * Line 12 (\$218,854)	(\$437,709)	(\$437,709)	(\$437,709)
16	Cumulative Book Depreciation	Prior Year Line 16 + Current Year Line 15 (\$218,854)	(\$656,563)	(\$1,094,272)	(\$1,531,981)
17	Cumulative Book / Tax Timer	Line 14 - Line 16 (\$5,867,222)	(\$5,642,809)	(\$5,402,381)	(\$5,147,180)
18	Effective Tax Rate	35.00%	35.00%	35.000%	35.000%
19	Deferred Tax Reserve	Line 17 * Line 18 (\$2,053,528)	(\$1,974,983)	(\$1,890,833)	(\$1,801,513)
	<u>Rate Base Calculation:</u>				
20	Cumulative Incremental Capital Included in Rate Base	Line 11 (\$8,929,918)	(\$8,929,918)	(\$8,929,918)	(\$8,929,918)
21	Accumulated Depreciation	- Line 16 \$218,854	\$656,563	\$1,094,272	\$1,531,981
22	Deferred Tax Reserve	- Line 19 \$2,053,528	\$1,974,983	\$1,890,833	\$1,801,513
23	Year End Rate Base	Sum of Lines 20 through 22 (\$6,657,536)	(\$6,298,372)	(\$5,944,812)	(\$5,596,423)
	<u>Revenue Requirement Calculation:</u>				
24	Average Rate Base	(Prior Year Line 23 + Current Year Line 23) ÷ 2		(\$6,121,592)	(\$5,770,618)
25	Pre-Tax ROR			9.68%	9.68%
26	Return and Taxes	Line 24 * Line 25		(\$592,570)	(\$558,596)
27	Book Depreciation	Line 15 (\$437,709)		(\$437,709)	(\$437,709)
28	Property Taxes	\$0 in Year 1, then Prior Year (Line 11-Line 16) * Property		(\$329,280)	(\$311,859)
29	<b>Annual Revenue Requirement</b>	<b>Sum of Lines 26 through 28</b>	<b>4/ N/A</b>	<b>N/A</b>	<b>(\$1,359,559)</b>
					<b>(\$1,308,163)</b>

1/ Column (a) - FY 2013 Electric ISR Reconciliation Filing R.I.P.U.C. Docket No. 4307

2/ Weighted Average Cost of Capital per Settlement Agreement R.I.P.U.C. Docket No. 4323

	Ratio	Rate	Rate	Taxes	Return
Long Term Debt	49.95%	4.96%	2.48%		2.48%
Short Term Debt	0.76%	0.79%	0.01%		0.01%
Preferred Stock	0.15%	4.50%	0.01%		0.01%
Common Equity	49.14%	9.50%	4.67%	2.51%	7.18%
	100.00%		7.17%	2.51%	9.68%

3/ Assumes an Effective Property Tax Rate of 3.98% subject to true up per Settlement Agreement R.I.P.U.C. Docket No. 4323

4/ Column (a) The FY 2013 Revenue Requirement on the FY 2013 Capital investment was reconciled in the FY 2013 Electric ISR Reconciliation Filing R.I.P.U.C. Docket No. 4307  
Column (b) The FY 2014 Revenue Requirement on the FY 2013 Capital Investment will be reconciled in the FY 2014 Electric ISR Reconciliation Filing due August 1, 2014.

**The Narragansett Electric Company**  
**d/b/a National Grid**  
**Computation of Electric Capital Investment Revenue Requirement**  
**On FY 2013 Capital Investment**

		Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year
		<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
		(a)	(b)	(c)	(d)
<u>Capital Repairs Deduction</u>					
1	Plant Additions	Page 6 Line 3	(\$7,034,859)		
2	Capital Repairs Deduction Rate		16.00%		
3	Capital Repairs Deduction	Line 2 x Line 3	<u>(\$1,125,577)</u>		
<u>Bonus Depreciation</u>					
4	Plant Additions	Line 1	(\$7,034,859)		
5	Less Capital Repairs Deduction	Line 3	<u>(\$1,125,577)</u>		
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5	(\$5,909,282)		
7	Percent of Plant Eligible for Bonus Depreciation		<u>100.00%</u>		
8	Plant Eligible for Bonus Depreciation	Line 6 x Line 7	(\$5,909,282)		
9	Bonus Depreciation Rate (April 2012 - December 2012)	1 * 75% * 50%	37.50%		
10	Bonus Depreciation Rate (January 2013 - March 2013)	1 * 25% * 50%	<u>12.50%</u>		
11	Total Bonus Depreciation Rate	Line 9 + Line 10	50.00%		
12	Bonus Depreciation	Line 8 x Line 11	(\$2,954,641)		
<u>Remaining Tax Depreciation</u>					
13	Plant Additions	Line 1	(\$7,034,859)		
14	Less Capital Repairs Deduction	Line 3	(\$1,125,577)		
15	Less Bonus Depreciation	Line 12	<u>(\$2,954,641)</u>		
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 13 - Line 14 - Line 15	(\$2,954,641)	(\$2,954,641)	(\$2,954,641)
17	20 YR MACRS Tax Depreciation Rates		3.750%	7.219%	6.677%
18	Remaining Tax Depreciation	Line 16 x Line 17	<u>(\$110,799)</u>	(\$213,296)	(\$197,281)
19	Cost of Removal	Page 6 Line 10	(\$1,895,059)		
20	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 19	<u>(\$6,086,076)</u>	<u>(\$213,296)</u>	<u>(\$197,281)</u>
			<u>(\$182,508)</u>		

The Narragansett Electric Company  
d/b/a National Grid  
Computation of Electric Capital Investment Revenue Requirement  
FY 2012 Investment

Line No.		Fiscal Year 2012 (a)	Fiscal Year 2013 (b)	Fiscal Year 2014 (c)	Fiscal Year 2015 (d)	Fiscal Year 2016 (e)
<b>Capital Additions Allowance</b>						
<i>Non-Discretionary Capital</i>						
1	Non-Discretionary	(\$4,019,686)	\$0	\$0	\$0	\$0
<i>Discretionary Capital</i>						
2	Lesser of Actual Discretionary Capital Additions or Spending or Approved Spending	\$4,163,942	\$0	\$0	\$0	\$0
3	Total Allowed Capital Included in Rate Base	Line 1 + Line 2	\$144,256	\$0	\$0	\$0
<b>Depreciable Net Capital Included in Rate Base</b>						
4	Total Allowed Capital Included in Rate Base in Current Year	Line 3	\$144,256	\$0	\$0	\$0
5	Retirements		\$19,938	\$0	\$0	\$0
6	Net Depreciable Capital Included in Rate Base	Column (a) = Line 4 - Line 5; Columns (b), (c), (d) & (e) = Prior Year Line 6	\$124,318	\$124,318	\$124,318	\$124,318
<b>Change in Net Capital Included in Rate Base</b>						
7	Incremental Depreciable Amount	Column (a) = Line 4, Columns (b), (c), (d) & (e) = Prior Year Line 7	\$144,256	\$144,256	\$144,256	\$144,256
8	Cost of Removal		(\$771,131)	(\$771,131)	(\$771,131)	(\$771,131)
9	<b>Total Net Plant in Service</b>	<b>Line 7 + Line 8</b>	<b>(\$626,875)</b>	<b>(\$626,875)</b>	<b>(\$626,875)</b>	<b>(\$626,875)</b>
<b>Deferred Tax Calculation:</b>						
10	Composite Book Depreciation Rate	As approved per R.I.P.U.C. Docket No. 4065	3.40%	3.40%	3.40%	3.40%
11	Tax Depreciation	Page 9 Line 20	(\$654,965)	\$2,107	\$1,949	\$1,803
12	Cumulative Tax Depreciation	Prior Year Line 12 + Current Year Line 11	(\$654,965)	(\$652,858)	(\$650,909)	(\$649,107)
13	Book Depreciation	Column (a) = -Line 6 * Line 10 * 50%; Columns (b), (c), (d) & (e) = Line 6 * Line 10	(\$2,113)	(\$4,227)	(\$4,227)	(\$4,227)
14	Cumulative Book Depreciation	Prior Year Line 14 + Current Year Line 13	(\$2,113)	(\$6,340)	(\$10,567)	(\$14,794)
15	Cumulative Book / Tax Timer	Line 12 - Line 14	(\$652,852)	(\$646,518)	(\$640,342)	(\$634,313)
16	Effective Tax Rate		35.00%	35.00%	35.00%	35.00%
17	Deferred Tax Reserve	Line 15 * Line 16	(\$228,498)	(\$226,281)	(\$224,120)	(\$222,009)
<b>Rate Base Calculation:</b>						
18	Cumulative Incremental Capital Included in Rate Base	Line 9	(\$626,875)	(\$626,875)	(\$626,875)	(\$626,875)
19	Accumulated Depreciation	- Line 14	\$2,113	\$6,340	\$10,567	\$14,794
20	Deferred Tax Reserve	- Line 17	\$228,498	\$226,281	\$224,120	\$222,009
21	Year End Rate Base	Sum of Lines 18 through 20	(\$396,264)	(\$394,254)	(\$392,188)	(\$390,072)
<b>Revenue Requirement Calculation:</b>						
22	Average Rate Base	(Prior Year Line 21 + Current Year Line 21) ÷ 2			(\$393,221)	(\$391,130)
23	Pre-Tax ROR				9.68%	9.68%
24	Return and Taxes	Line 22 * Line 23			(\$38,064)	(\$37,861)
25	Book Depreciation	Line 19			(\$4,227)	(\$4,227)
26	Property Taxes	\$0 in Year 1, then Prior Year (Line 9 - Line 14) * Property Tax Rate 3/			(\$24,697)	(\$24,529)
27	<b>Annual Revenue Requirement</b>	<b>Sum of Lines 24 through 26</b>	<b>4/</b>	<b>N/A</b>	<b>N/A</b>	<b>(\$66,988)</b>
						<b>(\$66,617)</b>
						<b>(\$66,242)</b>

1/ Column (a) - FY 2012 Electric ISR Reconciliation Filing R.I.P.U.C. Docket No. 4218.

2/ Weighted Average Cost of Capital per Settlement Agreement R.I.P.U.C. Docket No. 4323

	Ratio	Rate	Rate	Taxes	Return
Long Term Debt	49.95%	4.96%	2.48%		2.48%
Short Term Debt	0.76%	0.79%	0.01%		0.01%
Preferred Stock	0.15%	4.50%	0.01%		0.01%
Common Equity	49.14%	9.50%	4.67%	2.51%	7.18%
	<u>100.00%</u>		<u>7.17%</u>	<u>2.51%</u>	<u>9.68%</u>

3/ Assumes an Effective Property Tax Rate of 3.98% subject to true up per Settlement Agreement R.I.P.U.C. Docket No. 4323

4/ Column (a) The FY 2012 Revenue Requirement on the FY 2012 Capital investment was reconciled in the FY 2012 Electric ISR Reconciliation Filing R.I.P.U.C. Docket No. 4218.  
Column (b) The FY 2013 Revenue Requirement on the FY 2012 Capital Investment was reconciled in the FY 2013 Electric ISR Reconciliation Filing R.I.P.U.C. Docket No. 4307.

**The Narragansett Electric Company  
d/b/a National Grid  
Computation of Electric Capital Investment Revenue Requirement  
On FY 2012 Capital Investment**

Line No.		Fiscal Year <u>2012</u> (a)	Fiscal Year <u>2013</u> (b)	Fiscal Year <u>2014</u> (c)	Fiscal Year <u>2015</u> (d)	Fiscal Year <u>2016</u> (e)
	<u>Capital Repairs Deduction</u>					
1	Plant Additions	Page 3 Line 3	\$144,256			
2	Capital Repairs Deduction Rate	Per Tax Department	1/ <u>21.05%</u>			
3	Capital Repairs Deduction	Line 2 * Line 3	<u>\$30,366</u>			
	<u>Bonus Depreciation</u>					
4	Plant Additions	Line 1	\$144,256			
5	Less Capital Repairs Deduction	Line 3	<u>\$30,366</u>			
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5	\$113,890			
7	Percent of Plant Eligible for Bonus Depreciation	Per Tax Department	2/ <u>85.00%</u>			
8	Plant Eligible for Bonus Depreciation	Line 6 * Line 7	\$96,807			
9	Bonus Depreciation Rate (April 2011 - December 2011)	1 * 75% * 100%	75.00%			
10	Bonus Depreciation Rate (January 2012 - March 2012)	1 * 25% * 50%	<u>12.50%</u>			
11	Total Bonus Depreciation Rate	Line 9 + Line 10	87.50%			
12	Bonus Depreciation	Line 8 * Line 11	\$84,706			
	<u>Remaining Tax Depreciation</u>					
13	Plant Additions	Line 1	\$144,256			
14	Less Capital Repairs Deduction	Line 3	\$30,366			
15	Less Bonus Depreciation	Line 12	<u>\$84,706</u>			
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 13 - Line 14 - Line 15	\$29,184	\$29,184	\$29,184	\$29,184
17	20 YR MACRS Tax Depreciation Rates		<u>3.750%</u>	7.219%	6.677%	6.177%
18	Remaining Tax Depreciation	Line 16 * Line 17	\$1,094	\$2,107	\$1,949	\$1,803
19	Cost of Removal	Page 3 Line 8	(\$771,131)			
20	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 19	<u>(\$654,965)</u>	<u>\$2,107</u>	<u>\$1,949</u>	<u>\$1,803</u>

1/ Capital Repairs percentage is based on a three year average, 2010, 2011 and 2012 of electric property qualifying for the repairs deduction as a percentage of total annual plant additions.

2/ Since not all property additions qualify for bonus depreciation and because a project must be started after the beginning of the bonus period, January 1, 2008, an estimate of 85% is used rather than 100%.

**The Narragansett Electric Company  
d/b/a National Grid  
FY 2012 - FY 2014 Incremental Capital Investment Summary**

Line No.		Actual Fiscal Year <u>2012</u> (a)	Actual Fiscal Year <u>2013</u> (b)	Estimated Fiscal Year <u>2014</u> (c)	
<b><u>Capital Investment</u></b>					
1	ISR - Eligible Capital Investment	Col (a) FY 2012 ISR Reconciliation Filing Docket No. 4218, Col (b) FY 2013 ISR Reconciliation Filing Docket No. 4307, Col (c) FY 2014 ISR Filing Docket No. 4382	\$48,946,456	\$44,331,141	\$53,373,000
2	ISR - Eligible Capital Additions included in Rate Base per R.I.P.U.C. Docket No. 4323	Schedule MDL-3-ELEC Page 53, Docket No. 4323: Col (a)= Line Note 1(a); Col (b)= Line Notes 2(b)+2(d)+3(d); Col (c)=Line Note 3(e)	\$48,802,200	\$51,366,341	\$42,805,284
3	Incremental ISR Capital Investment	Line 3 - Line 4	\$144,256	(\$7,035,200)	\$10,567,716
<b><u>Cost of Removal</u></b>					
4	ISR - Eligible Cost of Removal	Col (a) FY 2012 ISR Reconciliation Filing Docket No. 4218, Col (b) FY 2013 ISR Reconciliation Filing Docket No. 4307, Col (c) FY 2014 ISR Filing Docket No. 4382	\$5,807,869	\$5,179,941	\$9,545,000
5	ISR - Eligible Cost of Removal in Rate Base per R.I.P.U.C. Docket No. 4323	Workpaper MDL-19-ELEC page 2, Docket No. 4323	\$6,579,000	\$7,075,000	\$5,895,833
6	Incremental Cost of Removal	Line 4 - Line 5	(\$771,131)	(\$1,895,059)	\$3,649,167
<b><u>Retirements</u></b>					
7	ISR - Eligible Retirements/Actual	Col (a) FY 2012 ISR Reconciliation Filing Docket No. 4218, Col (b) FY 2013 ISR Reconciliation Filing Docket No. 4307, Col (c) FY 2014 ISR Filing Docket No. 4382	\$7,740,446	\$14,255,714	\$8,438,271
8	ISR - Eligible Retirements/Estimated	Col (a) FY 2012 ISR Filing Docket No. 4218, Col (b) FY 2013 ISR Filing Docket No. 4307	\$7,720,508	\$8,416,779	\$6,767,515
9	Incremental Retirements	Line 7- Line 8	\$19,938	\$5,838,935	\$1,670,756

2/ Assumes 15.81 % based on FY 2012 retirements as a percent of capital investment

**The Narragansett Electric Company**  
**d/b/a National Grid**  
**Inspection and Maintenance Program Summary**

Line No.		Fiscal Year <u>2015</u>		
1	Total Inspection and Maintenance Program	\$2,995,000		
	Less:			
2	Electric Contact Voltage expenses included in R.I.P.U.C. Docket No. 4323	(\$163,749) 1/		
3	Total Inspection and Maintenance Program to be included in FY 2015 Electric ISR	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-top: 1px solid black; border-bottom: 3px double black;"></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">\$2,831,251</td> </tr> </table>		\$2,831,251
	\$2,831,251			

1/ Electric Contact Voltage monitoring expenses in R.I.P.U.C. Docket No. 4323	\$214,394
Benefits to be recovered in Pension/OPEB adjustment mechanism	\$24,507
Other Benefits	2/ <u>\$26,138</u>
Contact Voltage monitoring expenses to be excluded from FY 2015 Electric ISR	<u>\$163,749</u>

2/ Benefits are not included in the I&M amounts shown on Line 1 and are therefore being adjusted out of the the contact voltage amounts included in base rates.

**The Narragansett Electric Company**  
**d/b/a National Grid**  
**R.I.P.U.C. Docket No. 4473**  
**Electric Infrastructure, Safety, and Reliability Plan FY 2015**  
**Section 5: Attachment 1**  
**Page 12 of 12**

**The Narragansett Electric Company**  
**d/b/a National Grid**  
**Average Rate Base**

Line No.	Month No.	Month	FY 2014 Plant Additions (a)	In Rates (b)	Not In Rates (c) = (a) - (b)	Weight (d)	Weighted Average (f) = (d) * (c)
1				\$51,366,341			
2	1	Apr-13	\$4,447,750	\$4,280,528	\$167,222	0.958	\$160,254
3	2	May-13	\$4,447,750	\$4,280,528	\$167,222	0.875	\$146,319
4	3	Jun-13	\$4,447,750	\$4,280,528	\$167,222	0.792	\$132,384
5	4	Jul-13	\$4,447,750	\$4,280,528	\$167,222	0.708	\$118,449
6	5	Aug-13	\$4,447,750	\$4,280,528	\$167,222	0.625	\$104,513
7	6	Sep-13	\$4,447,750	\$4,280,528	\$167,222	0.542	\$90,578
8	7	Oct-13	\$4,447,750	\$4,280,528	\$167,222	0.458	\$76,643
9	8	Nov-13	\$4,447,750	\$4,280,528	\$167,222	0.375	\$62,708
10	9	Dec-13	\$4,447,750	\$4,280,528	\$167,222	0.292	\$48,773
11	10	Jan-14	\$4,447,750	\$4,280,528	\$167,222	0.208	\$34,838
12	11	Feb-14	\$4,447,750	\$0	\$4,447,750	0.125	\$555,969
13	12	Mar-14	\$4,447,750	\$0	\$4,447,750	0.042	\$185,323
14		Total	<u>\$53,373,000</u>	<u>\$42,805,284</u>	<u>\$10,567,716</u>		<u>1,716,751</u>
15		Ratio					<u><b>16.25%</b></u>
16		Percent of Incremental Plant Investment incurred in CY 2013				1/	<u><b>14.24%</b></u>

Column (a) Page 10 Line 1(c)

Column (b) Page 10 Line 2(c)

Column (d) - ((12.5- Month No.)/12)

1/ (Sum of Column (c), Lines 2 through 10)/Column (c), Line 14

**Exhibit 1 – JLG & RM  
Section 6  
Rate Design**

The Narragansett Electric Company  
d/b/a National Grid  
FY 2015 Electric Infrastructure, Safety, and Reliability Plan  
Section 6: Rate Design

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## **Section 6**

### Rate Design

#### FY 2015 Electric ISR Plan

The Narragansett Electric Company  
Infrastructure, Safety & Reliability Plan Factors Calculations - Summary  
Summary of Proposed Factors  
(for the 12 months ending March 31, 2015)

Line No.		Residential	Small Commercial	General Commercial	Large Demand	Large Demand	Optional Large Demand	Optional Large Demand	Street Lighting	Electric Propulsion
		<u>A16 / A60</u>	<u>C-06</u>	<u>G-02</u>	<u>B32</u>	<u>G32</u>	<u>B62</u>	<u>G62</u>	<u>S10 / S14</u>	<u>X-01</u>
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
(1)	O&M Factor per kWh	\$0.00157	\$0.00175	\$0.00127	\$0.00078	\$0.00078	n/a	n/a	\$0.01144	\$0.00131
(2)	O&M Factor per kW	n/a	n/a	n/a	\$0.50	n/a	\$0.31	\$0.31	n/a	n/a
(3)	CapEx kWh Charge	\$0.00027	\$0.00027	n/a	n/a	n/a	n/a	n/a	\$0.00127	\$0.00023
(4)	CapEx kW Charge	n/a	n/a	\$0.07	\$0.07	\$0.07	\$0.04	\$0.04	n/a	n/a
(5)	Adjusted Base Distribution kW Charge - Back-up Rates	n/a	n/a	n/a	\$ 0.18	n/a	\$ (0.02)	n/a	n/a	n/a

Line Descriptions:

- (1) Page 2, Line 6; column (d) applicable to supplemental kWh deliveries only
- (2) Page 2 Line 8; column (d) per Page 4, column (b), Line 6; column (d) applicable to backup service only
- (3) Page 3, Line 6
- (4) Page 3, Line 8
- (5) Page 4, line 15

The Narragansett Electric Co.  
FY15 Proposed Operations & Maintenance Factors  
(for the 12 months ending March 31, 2015)

Line No.	Total (a)	Residential A16 / A60 (b)	Small Commercial & Industrial C-06 (c)	General Commercial & Industrial G-02 (d)	Large Demand B32 / G32 (e)	Optional Large Demand B62 / G62 (f)	Street Lighting S10 / S14 (g)	Electric Propulsion X-01 (h)
(1) FY2015 Forecasted Vegetation Management (VM) and Inspection & Maintenance (I&M) O&M Expense	\$10,557,251							
(2) Operating & Maintenance Expense - Rate Year Allowance (\$000s)	\$35,640	\$17,115	\$3,503	\$5,508	\$5,438	\$1,306	\$2,668	\$102
(3) Percentage of Total	100.00%	48.02%	9.83%	15.45%	15.26%	3.66%	7.49%	0.29%
(4) Allocated Vegetation Management (VM) and Inspection & Maintenance (I&M) O&M Expense	\$10,557,251	\$5,069,791	\$1,037,656	\$1,631,575	\$1,610,840	\$386,862	\$790,313	\$30,214
(5) Forecasted kWh - April 2014 through March 2015	7,812,393,050	3,225,522,028	590,075,655	1,282,062,609	2,055,217,814	567,532,378	69,044,655	22,937,910
(6) Vegetation Management (VM) and Inspection & Maintenance (I&M) O&M Expense Charge per kWh		\$0.00157	\$0.00175	\$0.00127	\$0.00078	n/a	\$0.01144	\$0.00131
(7) Forecasted kW - April 2014 through March 2015						1,225,195		
(8) Vegetation Management (VM) and Inspection & Maintenance (I&M) O&M Expense Charge per kW		n/a	n/a	n/a	n/a	\$0.31	n/a	n/a

Line Descriptions:

- (1) per Section 5: Attachment 1, page 1, line 3, column (b)
- (2) per R.I.P.U.C. 4323, Compliance Attachment 3A, (Schedule HSG-1), page 4, line 72
- (3) Line (2) ÷ Line (2) Total Column
- (4) Line (1) Total Column x Line (3)
- (5) per Company forecasts
- (6) Line (4) ÷ Line (5), truncated to 5 decimal places
- (7) per Company forecasts
- (8) Line (4) ÷ Line (7), truncated to 2 decimal places

The Narragansett Electric Co.  
FY 15 Proposed CapEx Factors  
(for the 12 months ending March 31, 2015)

Line No.	Total (a)	Residential A16 / A60 (b)	Small Commercial & Industrial C-06 (c)	General Commercial & Industrial G-02 (d)	Large Demand B32 / G32 (e)	Optional Large Demand B62 / G62 (f)	Street Lighting S10 / S14 (g)	Electric Propulsion X-01 (h)
(1) Proposed FY2015 Capital Investment Component of Revenue Requirement	\$1,693,058							
(2) Total Rate Base (\$000s)	\$561,738	\$296,490	\$54,542	\$82,460	\$77,651	\$19,545	\$29,286	\$1,764
(3) Percentage of Total	100.00%	52.78%	9.71%	14.68%	13.82%	3.48%	5.21%	0.31%
(4) Allocated Proposed Revenue Requirement	\$1,693,058	\$893,609	\$164,388	\$248,531	\$234,038	\$58,908	\$88,268	\$5,315
(5) Forecasted kWh - April 2014 through March 2015	7,812,393,050	3,225,522,028	590,075,655	1,282,062,609	2,055,217,814	567,532,378	69,044,655	22,937,910
(6) Proposed CapEx Factor - kWh charge		\$0.00027	\$0.00027	n/a	n/a	n/a	\$0.00127	\$0.00023
(7) Forecasted kW - April 2014 through March 2015				3,534,489	3,185,867	1,225,195		
(8) Proposed CapEx Factor - kW Charge		n/a	n/a	\$0.07	\$0.07	\$0.04	n/a	n/a

Line Descriptions:

- (1) per Section 5: Attachment 1, page 1, line 8, column (b)
  - (2) per R.I.P.U.C. 4323, Compliance Attachment 3A, (Schedule HSG-1), page 2, line 10
  - (3) Line (2) ÷ Line (2) Total Column
  - (4) Line (1) Total Column x Line (3)
  - (5) per Company forecasts
  - (6) For non demand-based rate classes, Line (4) ÷ Line (5), truncated to 5 decimal places
  - (7) per Company forecasts
  - (8) For demand-based rate classes, Line (4) ÷ Line (7), truncated to 2 decimal places
- Note: charges apply to kW>10 for rate class G-02 and kW>200 for rate class B32/G32

The Narragansett Electric Co.  
Calculation of Base Distribution Charge, CapEx and Operations & Maintenance Factors for Back-up Service Rates

Line No.	<u>Total</u> (a)	Large Demand	Optional Large
		<u>B32</u> (b)	Demand <u>B62</u> (c)
<u>Operations and Maintenance Factor</u>			
(1)	FY2015 Forecasted Vegetation Management (VM) and Inspection & Maintenance (I&M) O&M Expense	\$10,557,251	
(2)	Operating & Maintenance Expense - Rate Year Allowance (\$000s)	\$35,640	\$5,438
(3)	Percentage of Total		15.26%
(4)	Allocated Vegetation Management (VM) and Inspection & Maintenance (I&M) O&M Expense		\$1,610,840
(5)	Forecasted kW - April 2014 through March 2015		3,185,867
(6)	Vegetation Management (VM) and Inspection & Maintenance (I&M) O&M Expense Charge per kW		\$0.50
<u>Adjustment to Base Distribution per kW Charge</u>			
(7)	Base Distribution kW Charge (before 90% discount) per most recent rate case		\$6.96
(8)	Proposed O&M kW Factor effective 4/01/2014		\$0.50
(9)	Proposed CapEx kW Factor Charge effective 4/01/2014		\$0.07
(10)	Total Undiscounted ISR kW Charges		\$0.57
(11)	Total per kW Charge		\$7.53
(12)	Discount Rate applied to Total Distribution kW charge		90%
(13)	Discounted per kW Charge		\$0.75
(14)	Sum of Proposed CapEx and O&M per kW Factors		\$0.57
(15)	Proposed Base Distribution kW Charge for 04/01/2014		\$0.18

Line Descriptions:

- (1) per Section 5: Attachment 1, page 1, line 3, column (b)
- (2) from Page 2, line (2)
- (3) Line (2) ÷ Line (2) Total Column
- (4) Line (1) Total Column x Line (3)
- (5) per Company forecasts
- (6) Line (4) ÷ Line (5), truncated to 2 decimal places
- (7) per R.I.P.U.C. 4323 Compliance Attachment 3D, (Schedule JAL-4), page 5, line 36 and page 6, line 14, column (b)
- (8) Line (6)
- (9) from Page 3, line (8)
- (10) Line (8) + Line (9)
- (11) Line (7) + Line (10)
- (12) per tariff
- (13) Line (11) x (1 - Line (12))
- (14) Line (10)
- (15) Line (13) - Line (14)

**Exhibit 1 – JLG & RM  
Section 7  
Bill Impacts**

The Narragansett Electric Company  
d/b/a National Grid  
FY 2015 Electric Infrastructure, Safety, and Reliability Plan  
Section 7: Bill Impacts

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## **Section 7**

### **Bill Impacts**

#### **FY 2015 Electric ISR Plan**

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to A-16 Rate Customers

Monthly kWh	Present Rates Standard			Proposed Rates Standard			Increase/(Decrease)		Percentage of Customers
	Total	Offer	Delivery	Total	Offer	Delivery	Amount	% of Total	
150	\$27.92	\$11.06	\$16.86	\$27.91	\$11.06	\$16.85	(\$0.01)	0.0%	13.7%
300	\$49.77	\$22.13	\$27.64	\$49.76	\$22.13	\$27.63	(\$0.01)	0.0%	17.5%
400	\$64.34	\$29.50	\$34.84	\$64.31	\$29.50	\$34.81	(\$0.03)	0.0%	11.8%
500	\$78.91	\$36.88	\$42.03	\$78.87	\$36.88	\$41.99	(\$0.03)	0.0%	10.8%
600	\$93.46	\$44.24	\$49.22	\$93.42	\$44.24	\$49.18	(\$0.04)	0.0%	9.4%
700	\$108.03	\$51.62	\$56.41	\$107.98	\$51.62	\$56.36	(\$0.05)	0.0%	7.7%
1,000	\$151.72	\$73.74	\$77.98	\$151.66	\$73.74	\$77.92	(\$0.06)	0.0%	15.0%
2,000	\$297.37	\$147.48	\$149.89	\$297.24	\$147.48	\$149.76	(\$0.13)	0.0%	14.1%

Present Rates - as of 12/1/2013

Customer Charge		\$5.00
LIHEAP Charge		\$0.83
Transmission Energy Charge	kWh x	\$0.02036
Distribution Energy Charge (1)	kWh x	\$0.03797
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07079

Proposed Rates

Customer Charge		\$5.00
LIHEAP Charge		\$0.83
Transmission Energy Charge	kWh x	\$0.02036
Distribution Energy Charge (2)	kWh x	\$0.03791
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07079

Note (1): includes the current CapEx Factor of 0.000¢/kWh and the current O&M Factor of 0.190¢/kWh

Note (2): includes the proposed CapEx Factor of 0.027¢/kWh and the proposed O&M Factor of 0.157¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to A-60 Rate Customers

Monthly kWh	Present Rates			Proposed Rates			Increase/(Decrease)		Percentage of Customers
	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total	
150	\$20.61	\$11.06	\$9.55	\$20.60	\$11.06	\$9.54	(\$0.01)	0.0%	10.7%
300	\$40.35	\$22.12	\$18.23	\$40.33	\$22.12	\$18.21	(\$0.02)	0.0%	23.2%
400	\$53.51	\$29.50	\$24.01	\$53.49	\$29.50	\$23.99	(\$0.02)	0.0%	14.9%
500	\$66.67	\$36.87	\$29.80	\$66.64	\$36.87	\$29.77	(\$0.03)	0.0%	12.2%
600	\$79.83	\$44.24	\$35.59	\$79.79	\$44.24	\$35.55	(\$0.04)	-0.1%	9.6%
700	\$93.00	\$51.62	\$41.38	\$92.95	\$51.62	\$41.33	(\$0.05)	-0.1%	7.3%
1,000	\$132.48	\$73.74	\$58.74	\$132.42	\$73.74	\$58.68	(\$0.06)	0.0%	12.3%
2,000	\$264.09	\$147.48	\$116.61	\$263.97	\$147.48	\$116.49	(\$0.12)	0.0%	9.8%

Present Rates - as of 12/1/2013

Customer Charge		\$0.00
LIHEAP Charge		\$0.83
Transmission Energy Charge	kWh x	\$0.02036
Distribution Energy Charge (1)	kWh x	\$0.02450
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07079

Proposed Rates

Customer Charge		\$0.00
LIHEAP Charge		\$0.83
Transmission Energy Charge	kWh x	\$0.02036
Distribution Energy Charge (2)	kWh x	\$0.02444
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07079

Note (1): includes the current CapEx Factor of 0.000¢/kWh and the current O&M Factor of 0.190¢/kWh

Note (2): includes the proposed CapEx Factor of 0.027¢/kWh and the proposed O&M Factor of 0.157¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to C-06 Rate Customers

Monthly kWh	Present Rates			Proposed Rates			Increase/(Decrease)		Percentage of Customers
	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total	
250	\$48.12	\$19.43	\$28.69	\$48.09	\$19.43	\$28.66	(\$0.03)	-0.1%	35.2%
500	\$84.96	\$38.86	\$46.10	\$84.90	\$38.86	\$46.04	(\$0.06)	-0.1%	17.0%
1,000	\$158.65	\$77.73	\$80.92	\$158.53	\$77.73	\$80.80	(\$0.12)	-0.1%	19.0%
1,500	\$232.32	\$116.59	\$115.73	\$232.15	\$116.59	\$115.56	(\$0.17)	-0.1%	9.8%
2,000	\$306.01	\$155.46	\$150.55	\$305.78	\$155.46	\$150.32	(\$0.23)	-0.1%	19.1%

Present Rates - as of 12/1/2013

Customer Charge		\$10.00
LIHEAP Charge		\$0.83
Transmission Energy Charge	kWh x	\$0.02204
Distribution Energy Charge (1)	kWh x	\$0.03411
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

Proposed Rates

Customer Charge		\$10.00
LIHEAP Charge		\$0.83
Transmission Energy Charge	kWh x	\$0.02204
Distribution Energy Charge (2)	kWh x	\$0.03400
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

Note (1): includes the current CapEx Factor of 0.000¢/kWh and the current O&M Factor of 0.213¢/kWh

Note (2): includes the proposed CapEx Factor of 0.027¢/kWh and the proposed O&M Factor of 0.175¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-02 Rate Customers

Hours Use: 200

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	4,000	\$660.98	\$310.92	\$350.06	\$660.92	\$310.92	\$350.00	(\$0.06)	0.0%
50	10,000	\$1,515.99	\$777.29	\$738.70	\$1,516.93	\$777.29	\$739.64	\$0.94	0.1%
100	20,000	\$2,941.02	\$1,554.58	\$1,386.44	\$2,943.62	\$1,554.58	\$1,389.04	\$2.60	0.1%
150	30,000	\$4,366.05	\$2,331.88	\$2,034.17	\$4,370.32	\$2,331.88	\$2,038.44	\$4.27	0.1%

Present Rates - as of 12/1/2013

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (1)	kW x	\$4.85
Distribution Energy Charge (3)	kWh x	\$0.00561
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

Proposed Rates

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (2)	kW x	\$4.92
Distribution Energy Charge (4)	kWh x	\$0.00542
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

- Note (1): Includes the current CapEx Factor of \$0.00/kW  
Note (2): Includes the proposed CapEx Factor of \$0.07/kW  
Note (3): includes the current O&M Factor of 0.146¢/kWh  
Note (4): includes the proposed O&M Factor of 0.127¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-02 Rate Customers

Hours Use: 300

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	6,000	\$865.34	\$466.38	\$398.96	\$864.88	\$466.38	\$398.50	(\$0.46)	-0.1%
50	15,000	\$2,026.88	\$1,165.94	\$860.94	\$2,026.83	\$1,165.94	\$860.89	(\$0.05)	0.0%
100	30,000	\$3,962.80	\$2,331.88	\$1,630.92	\$3,963.42	\$2,331.88	\$1,631.54	\$0.62	0.0%
150	45,000	\$5,898.70	\$3,497.81	\$2,400.89	\$5,900.00	\$3,497.81	\$2,402.19	\$1.30	0.0%

Present Rates - as of 12/1/2013

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (1)	kW x	\$4.85
Distribution Energy Charge (3)	kWh x	\$0.00561
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002

Proposed Rates

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (2)	kW x	\$4.92
Distribution Energy Charge (4)	kWh x	\$0.00542
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002

Gross Earnings Tax 4.00%

Gross Earnings Tax 4.00%

Standard Offer Charge kWh x \$0.07462

Standard Offer Charge kWh x \$0.07462

- Note (1): Includes the current CapEx Factor of \$0.00/kW
- Note (2): Includes the proposed CapEx Factor of \$0.07/kW
- Note (3): includes the current O&M Factor of 0.146¢/kWh
- Note (4): includes the proposed O&M Factor of 0.127¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-02 Rate Customers

Hours Use: 400

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	8,000	\$1,069.68	\$621.83	\$447.85	\$1,068.83	\$621.83	\$447.00	(\$0.85)	-0.1%
50	20,000	\$2,537.76	\$1,554.58	\$983.18	\$2,536.72	\$1,554.58	\$982.14	(\$1.04)	0.0%
100	40,000	\$4,984.57	\$3,109.17	\$1,875.40	\$4,983.21	\$3,109.17	\$1,874.04	(\$1.36)	0.0%
150	60,000	\$7,431.36	\$4,663.75	\$2,767.61	\$7,429.69	\$4,663.75	\$2,765.94	(\$1.67)	0.0%

Present Rates - as of 12/1/2013

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (1)	kW x	\$4.85
Distribution Energy Charge (3)	kWh x	\$0.00561
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

Proposed Rates

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (2)	kW x	\$4.92
Distribution Energy Charge (4)	kWh x	\$0.00542
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

- Note (1): Includes the current CapEx Factor of \$0.00/kW  
Note (2): Includes the proposed CapEx Factor of \$0.07/kW  
Note (3): includes the current O&M Factor of 0.146¢/kWh  
Note (4): includes the proposed O&M Factor of 0.127¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-02 Rate Customers

Hours Use: 500

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	10,000	\$1,274.04	\$777.29	\$496.75	\$1,272.79	\$777.29	\$495.50	(\$1.25)	-0.1%
50	25,000	\$3,048.65	\$1,943.23	\$1,105.42	\$3,046.62	\$1,943.23	\$1,103.39	(\$2.03)	-0.1%
100	50,000	\$6,006.33	\$3,886.46	\$2,119.87	\$6,003.00	\$3,886.46	\$2,116.54	(\$3.33)	-0.1%
150	75,000	\$8,964.02	\$5,829.69	\$3,134.33	\$8,959.38	\$5,829.69	\$3,129.69	(\$4.64)	-0.1%

Present Rates - as of 12/1/2013

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (1)	kW x	\$4.85
Distribution Energy Charge (3)	kWh x	\$0.00561
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

Proposed Rates

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (2)	kW x	\$4.92
Distribution Energy Charge (4)	kWh x	\$0.00542
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

- Note (1): Includes the current CapEx Factor of \$0.00/kW  
Note (2): Includes the proposed CapEx Factor of \$0.07/kW  
Note (3): includes the current O&M Factor of 0.146¢/kWh  
Note (4): includes the proposed O&M Factor of 0.127¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-02 Rate Customers

Hours Use: 600

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
20	12,000	\$1,478.40	\$932.75	\$545.65	\$1,476.75	\$932.75	\$544.00	(\$1.65)	-0.1%
50	30,000	\$3,559.54	\$2,331.88	\$1,227.66	\$3,556.52	\$2,331.88	\$1,224.64	(\$3.02)	-0.1%
100	60,000	\$7,028.10	\$4,663.75	\$2,364.35	\$7,022.79	\$4,663.75	\$2,359.04	(\$5.31)	-0.1%
150	90,000	\$10,496.68	\$6,995.63	\$3,501.05	\$10,489.07	\$6,995.63	\$3,493.44	(\$7.61)	-0.1%

Present Rates - as of 12/1/2013

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (1)	kW x	\$4.85
Distribution Energy Charge (3)	kWh x	\$0.00561
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

Proposed Rates

Customer Charge		\$135.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$2.89
Transmission Energy Charge	kWh x	\$0.00716
Distribution Demand Charge-xcs 10 kW (2)	kW x	\$4.92
Distribution Energy Charge (4)	kWh x	\$0.00542
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4.00%
Standard Offer Charge	kWh x	\$0.07462

Note (1): Includes the current CapEx Factor of \$0.00/kW

Note (2): Includes the proposed CapEx Factor of \$0.07/kW

Note (3): includes the current O&M Factor of 0.146¢/kWh

Note (4): includes the proposed O&M Factor of 0.127¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-32 Rate Customers

Hours Use: 200

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	40,000	\$6,507.49	\$3,931.67	\$2,575.82	\$6,502.49	\$3,931.67	\$2,570.82	(\$5.00)	-0.1%
750	150,000	\$24,157.22	\$14,743.75	\$9,413.47	\$24,178.57	\$14,743.75	\$9,434.82	\$21.35	0.1%
1,000	200,000	\$32,179.82	\$19,658.33	\$12,521.49	\$32,213.15	\$19,658.33	\$12,554.82	\$33.33	0.1%
1,500	300,000	\$48,225.03	\$29,487.50	\$18,737.53	\$48,282.32	\$29,487.50	\$18,794.82	\$57.29	0.1%
2,500	500,000	\$80,315.45	\$49,145.83	\$31,169.62	\$80,420.66	\$49,145.83	\$31,274.83	\$105.21	0.1%

Present Rates - as of 12/1/2013

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (1)	kW x	\$3.70
Distribution Energy Charge (3)	kWh x	\$0.00590
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (2)	kW x	\$3.77
Distribution Energy Charge (4)	kWh x	\$0.00578
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current CapEx Factor of \$0.00/kW

Note (2): Includes the proposed CapEx Factor of \$0.07/kW

Note (3): includes the current O&M Factor of 0.090¢/kWh

Note (4): includes the proposed O&M Factor of 0.078¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-32 Rate Customers

Hours Use: 300

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	60,000	\$8,994.57	\$5,897.50	\$3,097.07	\$8,987.07	\$5,897.50	\$3,089.57	(\$7.50)	-0.1%
750	225,000	\$33,483.79	\$22,115.63	\$11,368.16	\$33,495.77	\$22,115.63	\$11,380.14	\$11.98	0.0%
1,000	300,000	\$44,615.24	\$29,487.50	\$15,127.74	\$44,636.07	\$29,487.50	\$15,148.57	\$20.83	0.0%
1,500	450,000	\$66,878.16	\$44,231.25	\$22,646.91	\$66,916.70	\$44,231.25	\$22,685.45	\$38.54	0.1%
2,500	750,000	\$111,403.99	\$73,718.75	\$37,685.24	\$111,477.95	\$73,718.75	\$37,759.20	\$73.96	0.1%

Present Rates - as of 12/1/2013

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (1)	kW x	\$3.70
Distribution Energy Charge (3)	kWh x	\$0.00590
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (2)	kW x	\$3.77
Distribution Energy Charge (4)	kWh x	\$0.00578
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current CapEx Factor of \$0.00/kW

Note (2): Includes the proposed CapEx Factor of \$0.07/kW

Note (3): includes the current O&M Factor of 0.090¢/kWh

Note (4): includes the proposed O&M Factor of 0.078¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-32 Rate Customers

Hours Use: 400

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	80,000	\$11,481.65	\$7,863.33	\$3,618.32	\$11,471.65	\$7,863.33	\$3,608.32	(\$10.00)	-0.1%
750	300,000	\$42,810.34	\$29,487.50	\$13,322.84	\$42,812.95	\$29,487.50	\$13,325.45	\$2.61	0.0%
1,000	400,000	\$57,050.66	\$39,316.67	\$17,733.99	\$57,058.99	\$39,316.67	\$17,742.32	\$8.33	0.0%
1,500	600,000	\$85,531.28	\$58,975.00	\$26,556.28	\$85,551.07	\$58,975.00	\$26,576.07	\$19.79	0.0%
2,500	1,000,000	\$142,492.54	\$98,291.67	\$44,200.87	\$142,535.25	\$98,291.67	\$44,243.58	\$42.71	0.0%

Present Rates - as of 12/1/2013

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (1)	kW x	\$3.70
Distribution Energy Charge (3)	kWh x	\$0.00590
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (2)	kW x	\$3.77
Distribution Energy Charge (4)	kWh x	\$0.00578
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current CapEx Factor of \$0.00/kW

Note (2): Includes the proposed CapEx Factor of \$0.07/kW

Note (3): includes the current O&M Factor of 0.090¢/kWh

Note (4): includes the proposed O&M Factor of 0.078¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-32 Rate Customers

Hours Use: 500

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	100,000	\$13,968.74	\$9,829.17	\$4,139.57	\$13,956.24	\$9,829.17	\$4,127.07	(\$12.50)	-0.1%
750	375,000	\$52,136.91	\$36,859.38	\$15,277.53	\$52,130.14	\$36,859.38	\$15,270.76	(\$6.77)	0.0%
1,000	500,000	\$69,486.07	\$49,145.83	\$20,340.24	\$69,481.90	\$49,145.83	\$20,336.07	(\$4.17)	0.0%
1,500	750,000	\$104,184.41	\$73,718.75	\$30,465.66	\$104,185.45	\$73,718.75	\$30,466.70	\$1.04	0.0%
2,500	1,250,000	\$173,581.07	\$122,864.58	\$50,716.49	\$173,592.53	\$122,864.58	\$50,727.95	\$11.46	0.0%

Present Rates - as of 12/1/2013

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (1)	kW x	\$3.70
Distribution Energy Charge (3)	kWh x	\$0.00590
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (2)	kW x	\$3.77
Distribution Energy Charge (4)	kWh x	\$0.00578
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current CapEx Factor of \$0.00/kW

Note (2): Includes the proposed CapEx Factor of \$0.07/kW

Note (3): includes the current O&M Factor of 0.090¢/kWh

Note (4): includes the proposed O&M Factor of 0.078¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-32 Rate Customers

Hours Use: 600

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
200	120,000	\$16,455.82	\$11,795.00	\$4,660.82	\$16,440.82	\$11,795.00	\$4,645.82	(\$15.00)	-0.1%
750	450,000	\$61,463.47	\$44,231.25	\$17,232.22	\$61,447.32	\$44,231.25	\$17,216.07	(\$16.15)	0.0%
1,000	600,000	\$81,921.49	\$58,975.00	\$22,946.49	\$81,904.82	\$58,975.00	\$22,929.82	(\$16.67)	0.0%
1,500	900,000	\$122,837.53	\$88,462.50	\$34,375.03	\$122,819.82	\$88,462.50	\$34,357.32	(\$17.71)	0.0%
2,500	1,500,000	\$204,669.62	\$147,437.50	\$57,232.12	\$204,649.83	\$147,437.50	\$57,212.33	(\$19.79)	0.0%

Present Rates - as of 12/1/2013

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (1)	kW x	\$3.70
Distribution Energy Charge (3)	kWh x	\$0.00590
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$825.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00842
Distribution Demand Charge - > 200 kW (2)	kW x	\$3.77
Distribution Energy Charge (4)	kWh x	\$0.00578
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current CapEx Factor of \$0.00/kW

Note (2): Includes the proposed CapEx Factor of \$0.07/kW

Note (3): includes the current O&M Factor of 0.090¢/kWh

Note (4): includes the proposed O&M Factor of 0.078¢/kWh

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-62 Rate Customers

Hours Use: 200

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	600,000	\$107,930.45	\$58,975.00	\$48,955.45	\$108,024.20	\$58,975.00	\$49,049.20	\$93.75	0.1%
5,000	1,000,000	\$168,077.96	\$98,291.67	\$69,786.29	\$168,234.21	\$98,291.67	\$69,942.54	\$156.25	0.1%
7,500	1,500,000	\$243,262.33	\$147,437.50	\$95,824.83	\$243,496.71	\$147,437.50	\$96,059.21	\$234.38	0.1%
10,000	2,000,000	\$318,446.70	\$196,583.33	\$121,863.37	\$318,759.20	\$196,583.33	\$122,175.87	\$312.50	0.1%
20,000	4,000,000	\$619,184.22	\$393,166.67	\$226,017.55	\$619,809.22	\$393,166.67	\$226,642.55	\$625.00	0.1%

Present Rates - as of 12/1/2013

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (1)	kW x	\$3.31
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (2)	kW x	\$3.34
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current O&M kW Charge of \$0.32/kW and the current CapEx kW Charge of \$0.00/kW

Note (2): Includes the proposed O&M kW Charge of \$0.31/kW and the proposed CapEx kW Charge of \$0.04/kW

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-62 Rate Customers

Hours Use: 300

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	900,000	\$142,821.08	\$88,462.50	\$54,358.58	\$142,914.83	\$88,462.50	\$54,452.33	\$93.75	0.1%
5,000	1,500,000	\$226,228.99	\$147,437.50	\$78,791.49	\$226,385.24	\$147,437.50	\$78,947.74	\$156.25	0.1%
7,500	2,250,000	\$330,488.89	\$221,156.25	\$109,332.64	\$330,723.27	\$221,156.25	\$109,567.02	\$234.38	0.1%
10,000	3,000,000	\$434,748.79	\$294,875.00	\$139,873.79	\$435,061.29	\$294,875.00	\$140,186.29	\$312.50	0.1%
20,000	6,000,000	\$851,788.38	\$589,750.00	\$262,038.38	\$852,413.38	\$589,750.00	\$262,663.38	\$625.00	0.1%

Present Rates - as of 12/1/2013

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (1)	kW x	\$3.31
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (2)	kW x	\$3.34
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current O&M kW Charge of \$0.32/kW and the current CapEx kW Charge of \$0.00/kW

Note (2): Includes the proposed O&M kW Charge of \$0.31/kW and the proposed CapEx kW Charge of \$0.04/kW

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-62 Rate Customers

Hours Use: 400

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	1,200,000	\$177,711.70	\$117,950.00	\$59,761.70	\$177,805.45	\$117,950.00	\$59,855.45	\$93.75	0.1%
5,000	2,000,000	\$284,380.03	\$196,583.33	\$87,796.70	\$284,536.28	\$196,583.33	\$87,952.95	\$156.25	0.1%
7,500	3,000,000	\$417,715.46	\$294,875.00	\$122,840.46	\$417,949.83	\$294,875.00	\$123,074.83	\$234.37	0.1%
10,000	4,000,000	\$551,050.88	\$393,166.67	\$157,884.21	\$551,363.38	\$393,166.67	\$158,196.71	\$312.50	0.1%
20,000	8,000,000	\$1,084,392.55	\$786,333.33	\$298,059.22	\$1,085,017.55	\$786,333.33	\$298,684.22	\$625.00	0.1%

Present Rates - as of 12/1/2013

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (1)	kW x	\$3.31
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002

Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (2)	kW x	\$3.34
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002

Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current O&M kW Charge of \$0.32/kW and the current CapEx kW Charge of \$0.00/kW

Note (2): Includes the proposed O&M kW Charge of \$0.31/kW and the proposed CapEx kW Charge of \$0.04/kW

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-62 Rate Customers

Hours Use: 500

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	1,500,000	\$212,602.33	\$147,437.50	\$65,164.83	\$212,696.08	\$147,437.50	\$65,258.58	\$93.75	0.0%
5,000	2,500,000	\$342,531.08	\$245,729.17	\$96,801.91	\$342,687.33	\$245,729.17	\$96,958.16	\$156.25	0.0%
7,500	3,750,000	\$504,942.02	\$368,593.75	\$136,348.27	\$505,176.39	\$368,593.75	\$136,582.64	\$234.37	0.0%
10,000	5,000,000	\$667,352.95	\$491,458.33	\$175,894.62	\$667,665.45	\$491,458.33	\$176,207.12	\$312.50	0.0%
20,000	10,000,000	\$1,316,996.72	\$982,916.67	\$334,080.05	\$1,317,621.72	\$982,916.67	\$334,705.05	\$625.00	0.0%

Present Rates - as of 12/1/2013

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (1)	kW x	\$3.31
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Proposed Rates

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (2)	kW x	\$3.34
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002
Gross Earnings Tax		4%
Standard Offer Charge	kWh x	\$0.09436

Note (1): Includes the current O&M kW Charge of \$0.32/kW and the current CapEx kW Charge of \$0.00/kW

Note (2): Includes the proposed O&M kW Charge of \$0.31/kW and the proposed CapEx kW Charge of \$0.04/kW

Calculation of Monthly Typical Bill  
Total Bill Impact of Proposed  
Rates Applicable to G-62 Rate Customers

Hours Use: 600

Monthly Power		Present Rates			Proposed Rates			Increase/(Decrease)	
kW	kWh	Total	Standard Offer	Delivery	Total	Standard Offer	Delivery	Amount	% of Total
3,000	1,800,000	\$247,492.95	\$176,925.00	\$70,567.95	\$247,586.70	\$176,925.00	\$70,661.70	\$93.75	0.0%
5,000	3,000,000	\$400,682.12	\$294,875.00	\$105,807.12	\$400,838.37	\$294,875.00	\$105,963.37	\$156.25	0.0%
7,500	4,500,000	\$592,168.58	\$442,312.50	\$149,856.08	\$592,402.96	\$442,312.50	\$150,090.46	\$234.38	0.0%
10,000	6,000,000	\$783,655.04	\$589,750.00	\$193,905.04	\$783,967.54	\$589,750.00	\$194,217.54	\$312.50	0.0%
20,000	12,000,000	\$1,549,600.88	\$1,179,500.00	\$370,100.88	\$1,550,225.88	\$1,179,500.00	\$370,725.88	\$625.00	0.0%

Present Rates - as of 12/1/2013

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (1)	kW x	\$3.31
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002

Gross Earnings Tax 4%

Standard Offer Charge kWh x \$0.09436

Proposed Rates

Customer Charge		\$17,000.00
LIHEAP Charge		\$0.83
Transmission Demand Charge	kW x	\$3.23
Transmission Energy Charge	kWh x	\$0.00710
Distribution Demand Charge (2)	kW x	\$3.34
Distribution Energy Charge	kWh x	(\$0.00051)
Transition Energy Charge	kWh x	\$0.00162
Energy Efficiency Program Charge	kWh x	\$0.00906
Renewable Energy Distribution Charge	kWh x	\$0.00002

Gross Earnings Tax 4%

Standard Offer Charge kWh x \$0.09436

Note (1): Includes the current O&M kW Charge of \$0.32/kW and the current CapEx kW Charge of \$0.00/kW

Note (2): Includes the proposed O&M kW Charge of \$0.31/kW and the proposed CapEx kW Charge of \$0.04/kW

**Testimony of  
William R. Richer**

**THE NARRAGANSETT ELECTRIC COMPANY  
d/b/a NATIONAL GRID  
R.I.P.U.C. DOCKET NO. 4473  
RE: FY 2015 ELECTRIC INFRASTRUCTURE,  
SAFETY, AND RELIABILITY PLAN  
WITNESS: WILLIAM R. RICHER**

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**PRE-FILED DIRECT TESTIMONY**

**OF**

**WILLIAM R. RICHER**

**December 2013**

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**I. Introduction and Qualifications .....1**

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your full name and business address.**

3 A. My name is William R. Richer, and my business address is 40 Sylvan Road, Waltham,  
4 Massachusetts 02451.

5

6 **Q. Please state your position.**

7 A. I am the Director of Revenue Requirements - Rhode Island for National Grid USA  
8 Service Company, Inc. (“Service Company”). Service Company provides engineering,  
9 financial, administrative, and other technical support to subsidiary companies of National  
10 Grid USA. My current duties include revenue requirements oversight for National Grid’s  
11 electric and gas distribution activities in the US, including the electric division of The  
12 Narragansett Electric Company, d/b/a National Grid (“Narragansett” or the “Company”).

13

14 **Q. Please describe your education and professional experience.**

15 A. In 1985, I earned a Bachelor of Science degree in Accounting from Northeastern  
16 University. During my schooling I interned at the public accounting firm Pannell Kerr  
17 Forster in Boston, Massachusetts as a staff auditor and continued with this firm after my  
18 graduation. In February 1986, I joined Price Waterhouse in Providence, Rhode Island  
19 where I worked as a staff auditor and senior auditor. During this time, I earned my  
20 certified public accountants license in the State of Rhode Island. In June 1990, I joined  
21 National Grid in the Service Company (then known as New England Power Service  
22 Company) as a supervisor of Plant Accounting. Since that time I have held various

1 positions within the Service Company including Manager of Financial Reporting,  
2 Principal Rate Department Analyst, Manager of General Accounting, Director of  
3 Accounting Services, and Assistant Controller.

4  
5 **Q. Have you previously filed testimony or testified before the Rhode Island Public**  
6 **Utilities Commission (the “Commission”)?**

7 A. Yes. I have testified before the Commission on numerous occasions, including previous  
8 Electric and Gas ISR proceedings.

9  
10 **II. PURPOSE OF TESTIMONY**

11 **Q. What is the purpose of your testimony?**

12 A. The purpose of my testimony is to sponsor Section 5 of the Fiscal Year (“FY”) 2015  
13 Electric Infrastructure, Safety, and Reliability Plan (“ISR Plan”) which describes the  
14 calculation of the Company’s revenue requirement for FY 2015 in Attachment 1 of that  
15 section. This revenue requirement is based on the Electric ISR Plan operation and  
16 maintenance (“O&M”) expenses and capital investment described in the testimony of Ms.  
17 Jennifer Grimsley and Mr. Ryan Moe.

18  
19 **III. ISR PLAN REVENUE REQUIREMENT**

20 **Q. Please summarize the revenue requirement for the Company’s FY 2015 Electric**  
21 **ISR Plan.**

22 A. As shown on Page 1, Column (c) of the attachment, the Company’s FY 2015 Electric ISR

1 Plan revenue requirement amounts to \$12,250,308 and consists of the following  
2 elements: (1) operation and maintenance (“O&M”) expense associated with the  
3 Company’s vegetation management (“VM”) activities and the Company’s Inspection and  
4 Maintenance (“I&M”) Program, both totaling \$10,557,251, and (2) the Company’s  
5 return, depreciation expense and property tax expense associated with capital investment  
6 in electric utility infrastructure of \$1,693,058. Importantly, these amounts will be trued  
7 up to actual O&M and capital investment activity after the conclusion of the FY, with  
8 rate adjustments for the revenue requirement differences incorporated in future ISR  
9 filings.

10  
11 For illustration purposes only, Column (d) of Page 1 provides the FY 2016 revenue  
12 requirement. A detailed description of the calculation of the Company’s revenue  
13 requirement for FY 2015 can be found in Section 5 of the 2015 Electric ISR Plan.

14  
15 **Q. Does this conclude your testimony?**

16 **A.** Yes, it does.

**Testimony of  
Nancy R. Ribot**

**PRE-FILED DIRECT TESTIMONY**

**OF**

**NANCY RIBOT**

**December 2013**

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your full name and business address.**

3 A. My name is Nancy Ribot and my business address is 40 Sylvan Road, Waltham,  
4 Massachusetts 02451.

5

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

7 A. I am a Senior Analyst for Electric Pricing, New England in the Regulation and Pricing  
8 group of National Grid USA Service Company, Inc. This department provides rate  
9 related support to The Narragansett Electric Company d/b/a National Grid (“National  
10 Grid” or “Company”).

11

12 **Q. Please describe your educational background and training.**

13 A. In 2000, I graduated from Fitchburg State University in Fitchburg, MA with a Bachelor  
14 of Science Degree in Accounting.

15

16 **Q. Please describe your professional experience?**

17 A. From 1995 to 1998, I was employed by National Quality Assurance, USA as Junior  
18 Accountant. From 1999 to 2000, I held a position as a Cost Accountant at Avery  
19 Dennison Corporation. In 2001, I was employed by PriceWaterhouseCoopers as an  
20 Associate Auditor. From 2002 to 2007, I was employed as a Senior Accountant at the  
21 DCU Center in Worcester, MA. In 2007, I obtained a position at National Grid as an

1 accounting analyst for Niagara Mohawk Power Corporation. In 2008, I transferred to the  
2 Company's New England Electric Pricing Department; in which capacity I provide rate  
3 related support to The Narragansett Electric Company. In 2011, I was promoted to  
4 Senior Analyst. My responsibilities include providing support for The Narragansett  
5 Electric Company's filings for its electric service. More specifically, I have prepared the  
6 electric pricing schedules pertaining to The Narragansett Electric Company's 2010, 2011,  
7 and 2012 annual retail rate filings, the electric pricing schedules for the FY2012 through  
8 FY2014 Infrastructure, Safety and Reliability Plan filings, the Standard Offer Service  
9 Quarterly Filings, and the FY2012 and FY2013 Electric Revenue Decoupling Mechanism  
10 Reconciliation filings. In addition, I have provided rate related support for the  
11 Narragansett Electric Company's two most recent base distribution rate cases,  
12 Docket Nos. 4065 and 4323.

13  
14 **Q. Have you previously testified before Rhode Island Public Utilities Commission**  
15 **("Commission")?**

16 A. Yes. I have testified in reference to the Fiscal Year 2012 ISR Plan Reconciliation Filing,  
17 Docket No. 4218.

18  
19 **Q. What is the purpose of your testimony?**

20 A. The purpose of my testimony is to describe the calculation of the proposed factors and  
21 distribution kW charges associated with the Back-up Retail Delivery Service tariffs

1 resulting from the Company's FY2015 Infrastructure, Safety and Reliability ("ISR") Plan  
2 proposed in this filing and to provide the customer bill impacts of the proposed rate  
3 changes.

4  
5 **II. INFRASTRUCTURE, SAFETY AND RELIABILITY PROVISION**

6 **Q. Please describe the Company's ISR tariff provision.**

7 A. The Company's ISR Provision, R.I.P.U.C. No. 2118<sup>1</sup>, describes the process for  
8 establishing and implementing annual rate adjustments designed to recover the costs  
9 associated with the electric ISR Plan. The tariff consists of two separate mechanisms: 1)  
10 an Infrastructure Investment Mechanism ("IIM") designed to recover the costs associated  
11 with incremental capital investment; and 2) an Operation and Maintenance Mechanism  
12 ("O&MM") designed to recover certain annual Operation and Maintenance ("O&M")  
13 expenses pertaining to Inspection and Maintenance ("I&M") and Vegetation  
14 Management ("VM") activities.

15  
16 A. Infrastructure Investment Mechanism (IIM)

17 **Q. Please describe the operation of the IIM.**

18 A. The IIM provides for the recovery of incremental annual capital investment through  
19 CapEx Factors. In conjunction with the filing of the annual electric ISR Plan by  
20 January 1 of each year, the Company will propose CapEx Factors for each rate class

---

<sup>1</sup>The current ISR Provision was effective February 1, 2013.

1 designed to recover the cumulative revenue requirement associated with the estimated  
2 and actual fiscal year capital investment commencing with the Company's fiscal year  
3 ending March 31. The proposed CapEx Factors will be effective for consumption on and  
4 after April 1 of each year.

5  
6 **Q. How are the CapEx Factors designed?**

7 A. First, the cumulative revenue requirement approved by the Commission, which will  
8 reflect both an estimate of incremental capital investment for the upcoming fiscal year  
9 plus the cumulative prior years' actual incremental capital investment, is allocated to  
10 each of the Company's rate classes based upon the rate base allocator. The rate base  
11 allocator is the percentage of total rate base allocated to each rate class taken from the  
12 most recent proceeding before the Commission that contained an allocated cost of service  
13 study.

14  
15 Next, unit charges for each rate class will be developed from the allocated revenue  
16 requirement. For non-demand rate classes, a per kWh charge is calculated by dividing  
17 the rate class allocated cumulative revenue requirement by the forecasted kWh deliveries  
18 for each rate class for the period during which the rates will be in effect. For demand-  
19 based rate classes, Rate G-02, Rates G-32/B-32, and Rates G-62/B-62, the CapEx Factors

1 are per kW charges and are calculated by dividing the allocated cumulative revenue  
2 requirement for each rate class by the forecasted kW billing demand.

3  
4 **Q. Why is the cumulative revenue requirement allocated using a rate base allocator?**

5 A. The cumulative revenue requirement associated with incremental capital investment is  
6 allocated in a manner that is similar to the way the revenue requirement on capital  
7 investment would be allocated if an allocated cost of service study were performed.  
8 Since capital investment is primarily related to plant in service, which forms the largest  
9 part of rate base, allocating the incremental capital using the most recently approved rate  
10 base allocator is an appropriate way to spread the revenue requirement to each of the rate  
11 classes.

12  
13 **Q. Are the cumulative revenue requirement, which contains, in part, an estimate of  
14 incremental capital investment, and revenue generated from the CapEx Factors  
15 subject to reconciliation?**

16 A. Yes. The Company will submit a filing by August 1 of each year (the “Reconciliation  
17 Filing”) in which the Company will propose CapEx Reconciling Factors to become  
18 effective for the twelve months beginning October 1. In the Reconciliation Filing, the  
19 Company will compare the actual cumulative revenue requirement to actual billed  
20 revenue generated from the CapEx Factors for the applicable reconciliation period and  
21 any over or under collection of the actual cumulative revenue requirement will be

1 refunded to or collected from customers through the CapEx Reconciling Factors. The  
2 amount approved for recovery or refund through the CapEx Reconciling Factors will also  
3 be subject to reconciliation with actual amounts billed through the CapEx Reconciling  
4 Factors and any difference reflected in future CapEx Reconciling Factors.

5  
6 B. Operation and Maintenance Mechanism (O&MM)

7 **Q. Please describe the operation of the O&MM.**

8 A. The O&MM provides for the recovery of O&M budgeted expense associate with the  
9 Company's I&M and VM activities. The O&M Factors for each rate class are designed  
10 to recover the sum of the annual forecasted I&M expense and forecasted VM expense for  
11 the upcoming fiscal year as approved by the Commission in the Company's annual  
12 electric ISR Plan Filing.

13  
14 **Q. How are the O&M Factors designed?**

15 A. To determine the revenue to be collected from each rate class through the O&M Factors,  
16 the forecasted I&M and VM expense is allocated to each of the Company's rate classes  
17 based upon the O&M allocator derived from allocated distribution O&M expense (i.e.  
18 FERC accounts 580-598). This distribution O&M allocator is the percentage of total  
19 distribution O&M expense allocated to each rate class taken from the most recent  
20 proceeding before the Commission that contained an allocated cost of service study.  
21 Once the rate class O&M revenue requirement has been determined, per unit rates are

1 developed for each rate class. For Rates G-62/B-62, the O&M Factor is in the form of a  
2 demand, or per kW, charge and is calculated by dividing the allocated O&M expense for  
3 the combined rate class by the forecasted kW billing demand. For all other rate classes, a  
4 per kWh charge is developed by dividing the allocated O&M expense by the forecasted  
5 kWh deliveries for each rate class for the period during which the rates will be in effect.  
6

7 **Q. Why are the I&M and VM expenses allocated using a distribution O&M allocator?**

8 A. As with the allocation of the revenue requirement on capital investment, the O&M  
9 expense is allocated in a manner that is similar to the way these costs would be allocated  
10 if an allocated cost of service study were performed. Therefore, the distribution O&M  
11 allocator derived from the allocated cost of service study approved in the Company's last  
12 base rate proceeding is used to spread these costs to each of the rate classes.  
13

14 **Q. Regarding Rates G-02 and B-32/G-32, why are the CapEx Factors designed as**  
15 **demand (per kW) charges and the O&M Factors as per kWh charges?**

16 A. The current distribution charges for Rates G-02 and B-32/G-32 consist of both demand  
17 and kWh charges. The designs of the CapEx and O&M Factors for these rate classes are  
18 intended to not significantly change the relationship between the existing charges and  
19 will ensure that customers within the class that have differing usage characteristics will  
20 not experience significantly different bill impacts.

1 **Q. Regarding Rate B-62/G-62, why are both the CapEx Factor and the O&M Factor**  
2 **designed as demand (per kW) charges?**

3 A. Presently, the distribution charges for Rate B-62/G-62 consist only of a demand charge  
4 and the CapEx and O&M Factors maintain that design.  
5

6 **Q. Are the O&M Factors subject to reconciliation?**

7 A. Yes. In the Company's annual ISR Reconciliation Filing, the Company will propose an  
8 O&M Reconciling Factor to become effective for the twelve months beginning October  
9 1. The Company will compare the actual I&M and VM O&M expense to actual billed  
10 revenue generated from the O&M Factors for the applicable reconciliation period, and  
11 any over or under collection of actual expense will be refunded to or collected from  
12 customers through the O&M Reconciling Factor. The O&M Reconciling Factor will be a  
13 uniform per kWh charge applicable to all rate classes. The amount approved for recovery  
14 or refund through the O&M Reconciling Factor will be subject to reconciliation with  
15 actual amounts billed through the O&M Reconciling Factor and any difference reflected  
16 in future O&M Reconciling Factors.  
17

18 **III. PROPOSED FACTORS**

19 A. CapEx Factors

20 **Q. Please describe the calculation of the proposed CapEx Factors.**

21 A. The CapEx Factors are designed to collect the cumulative revenue requirement related to

1 incremental capital investments through the end of FY 2015. The cumulative revenue  
2 requirement of \$1,693,058<sup>2</sup> is developed in the testimony of Company Witness William  
3 R. Richer. The cumulative revenue requirement is allocated to the rate classes based on  
4 the total rate base allocator, consistent with the provisions of the general base rate  
5 proceeding Settlement Agreement in Docket No. 4323, and the factors are designed as  
6 I've described above using forecasted billing units for the period April 1, 2014 through  
7 March 31, 2015. The calculation of the proposed CapEx Factors is set forth in the ISR  
8 Plan, Section 6, page 3.

9  
10 B. O&M Factors

11 **Q. Please describe the calculation of the O&M Factors.**

12 A. The O&M Factors are designed to collect forecasted O&M expense associated with I&M  
13 and VM activities for FY 2015. As developed in the testimony of Mr. Richer, these  
14 expenses total \$10,557,251<sup>3</sup>. The Company has allocated these O&M expenses using an  
15 allocator based on distribution O&M from the allocated cost of service study consistent  
16 with the provisions of the general base rate proceeding Settlement Agreement in  
17 Docket No. 4323, which the Company believes maintains consistency in how these costs  
18 would be reflected in base rates, and O&M Factors are designed as I describe above.

19  
20  

---

<sup>2</sup> See Section 5: Attachment 1, Page 1, Line 8, column (b) of the ISR Plan.

<sup>3</sup> See Section 5: Attachment 1, Page 1, Line 3, column (b) of the ISR Plan.

1 C. Distribution kW Factors applicable to the Back-up Retail Delivery Service

2 **Q. Why is the Company proposing adjustments to the Distribution kW factors**  
3 **applicable to the Back-up Retail Delivery Service?**

4 A. Per R.I.P.U.C. Tariff No. 2137 and 2138, both effective February 1, 2013, the  
5 Distribution kW charge applicable to Back-up Retail Delivery Service is equal to the base  
6 distribution kW charge applicable to Back-up service, as approved in the Company's  
7 most recent base rate proceeding, plus the approved O&M and CapEx Factors applicable  
8 to Back-up Service, both per the Company's approved ISR Plan, multiplied by a factor of  
9 10%. Since the Company is proposing new O&M and CapEx Factors in this filing, the  
10 discounted distribution kW charges applicable to back-up service must be re-calculated to  
11 reflect the 90% discount on the proposed factors.

12  
13 **Q. Please describe the calculation of the proposed Distribution kW factors associated**  
14 **with the Back-up Retail Delivery Service tariffs.**

15 A. The calculation of the Distribution kW factors associated with the Back-up Retail  
16 Delivery Service tariffs is presented in Section 6, page 4. The sum of the base  
17 distribution kW charge approved in Docket No. 4323, the proposed CapEx Factor and the  
18 proposed O&M Factor is multiplied by 10%; the product of which represents the  
19 *discounted* Back-up Service Distribution kW charge. The sum of the proposed CapEx  
20 and O&M kW charges is then subtracted from the discounted Back-up Service

1 Distribution kW charge to derive the adjusted base Distribution kW charge (or credit).

2 In essence, the full discount is reflected in the base Distribution kW charge.

3  
4 **Q. Is the Company providing a summary of all proposed factors?**

5 A. Yes. The Summary of Proposed Factors is presented in Section 6, page 1.

6  
7 **IV. BILL IMPACTS**

8 **Q. Has the Company prepared monthly bill impacts illustrating the effect of the**  
9 **proposed ISR Factors?**

10 A. Yes. The monthly bill impacts for each rate class are shown on Section 7 of the ISR Plan.

11 For a residential customer receiving Standard Offer Service and using 500 kWh per  
12 month, implementation of the proposed ISR factors will result in a monthly bill decrease  
13 of \$0.03, or 0.0%. Note, that although the total FY 2015 revenue requirement is an  
14 increase over the FY 2014 revenue requirement, the monthly bill impact is a decrease.

15 The forecasted FY 2015 kilowatt-hours used to calculate the proposed CapEx and O&M  
16 factors are higher than the forecasted FY 2014 kilowatt-hours used in the calculation of  
17 the current charges. As a result, the FY 2015 total revenue requirement is spread over  
18 more kilowatt-hours. The effect of the increase in kilowatt-hours on the calculation of the  
19 per kWh charges more than offsets the increase in total revenue requirement and as a  
20 result the monthly bill impact for a 500 kWh residential customer will be a decrease for  
21 FY 2015.

1 **V. SUMMARY OF RETAIL DELIVERY RATES**

2 **Q. Is the Company including a revised Summary of Retail Delivery Rates tariff,**  
3 **R.I.P.U.C. No. 2095, in this filing?**

4 A. No, the Company is not revising this tariff at this time. The Company will submit its  
5 annual reconciliation filing in February 2014 and will propose additional rate changes for  
6 April 1, 2014. Therefore, the Company will submit a compliance filing following the  
7 Commission's decision in both the reconciliation filing docket and this docket that will  
8 include the Summary of Retail Delivery rates tariff reflecting all of the approved rate  
9 changes for April 1, 2014.

10

11 **VI. CONCLUSION**

12 **Q. Does this conclude your testimony?**

13 A. Yes, it does.