The Narragansett Electric Company
d/b/a National Grid

Gas Infrastructure, Safety and Reliability Plan FY 2018 Proposal (Revised)

January 26, 2017

Submitted to:
Rhode Island Public Utilities Commission

RIPUC Docket No. 4678

nationalgrid

Filing Letter

Robert J. Humm
Senior Counsel

January 26, 2017

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 Revised FY 2018 Gas Infrastructure, Safety, and Reliability Plan Docket No. 4678

Dear Ms. Massaro:

Enclosed please find 10 copies of National Grid's[1] revised Gas Infrastructure, Safety, and Reliability Plan (Gas ISR Plan or Plan) for fiscal year 2018. In National Grid's initial Gas ISR Plan filing on December 1, 2016, National Grid included a placeholder for costs related to Phase 3 of the decommissioning of the liquefied natural gas (LNG) facility in Cumberland. National Grid explained that it would submit a revised Plan in January 2017 after the preliminary schedule and cost estimate had been determined to reflect the proposed fiscal year spending for non-discretionary capital expenditures, as well as any modifications to the total Plan spending as a result of such work.

This filing consists of Supplemental Direct Testimony from John B. Currie, which attaches a clean version of the revised Gas ISR Plan as Exhibit 1S and a redlined version of the revised Gas ISR Plan as Exhibit 2S. Mr. Currie's supplemental testimony presents the proposed spending associated with Phase 3 of the decommissioning of the Cumberland LNG tank. Mr. Currie also presents reductions in projected spending for certain other program categories, and modifications to the projected total spending as a result of the decommissioning work. Mr. Currie's supplemental testimony focuses on Sections 1 and 2 of the revised Plan. Section 3 of the revised Plan, which is sponsored by William R. Richer, includes an updated revenue requirement. The updated revenue requirement reflects the capital investment as a result of the proposed spending for the decommissioning of the Cumberland LNG tank, as well as the actual net operating loss (NOL) deferred taxes generated for FY 2016 based upon the filing of National Grid's federal income tax return in December 2016. In addition, the original revenue requirement on vintage FY 2018 capital investment included estimated NOL deferred taxes because National Grid initially projected a taxable net loss in FY 2018. National Grid is now projecting taxable income in FY 2018 and the updated revenue requirement for vintage FY 2018 no longer includes estimated NOL deferred taxes. Section 4 of the revised Plan, which is sponsored by Suhila Nouri Nutile, includes updated

[1] The Narragansett Electric Company d/b/a National Grid.

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bill impacts. For the average residential heating customer using 846 therms annually, implementation of the proposed ISR factors for the period of April 1, 2017 through March 31, 2018 will result in an annual increase of $30.74, or 2.7 percent.

Thank you for your attention to this matter. If you have any questions, please contact me at 401-784-7415.

Very truly yours,

Robert J. Humm

Enclosure

cc: Docket 4678 Service List
Leo Wold, Esq.
Steve Scialabba
Don Ledversis

Supplemental Testimony
of John B. Currie

THE NARRAGANSETT ELECTRIC COMPANY
d/b/a NATIONAL GRID
RIPUC DOCKET NO. 4678
RE: FY 2018 GAS INFRASTRUCTURE,
SAFETY, AND RELIABILITY PLAN
WITNESS: JOHN B. CURRIE

SUPPLEMENTAL DIRECT TESTIMONY

OF

JOHN B. CURRIE

January 26, 2017

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is John B. Currie. My business address is National Grid, 40 Sylvan Road, Waltham, MA 02451.

Q. Have you previously submitted testimony in this docket?

A. Yes, I submitted direct testimony on December 1, 2016.

Q. What is the purpose of your supplemental testimony?

A. The purpose of my supplemental testimony is to present the proposed spending associated with Phase 3 of the decommissioning of the liquefied natural gas (LNG) tank in Cumberland, RI as part of the Company's proposed Gas Infrastructure, Safety and Reliability (ISR) Plan (referred to herein as the Gas ISR Plan or the Plan) for FY 2018.[1] In addition, my supplemental testimony presents reductions in projected spending for certain other program categories, as well as modifications to the projected total spending as a result of the decommissioning work.

[1] My direct testimony filed on December 1, 2016 included a description of Phase 1 and Phase 2 of the decommissioning work, as well as the estimated costs to be included in the FY 17 reconciliation. In its original Gas ISR Plan filing submitted on December 1, 2016, the Company had included a placeholder for Phase 3 spending.

Q. Are you sponsoring any exhibits through your testimony?

A. Yes, I am including the following exhibits to my supplemental testimony.

Exhibit 1S - Revised Gas ISR Plan (Clean version)

Exhibit 2S – Revised Gas ISR Plan (Redlined version)

My supplemental testimony focuses on Sections 1 and 2 of the Plan. The revised Plan also includes an updated revenue requirement calculation in Section 3, which is sponsored by Company Witness William R. Richer, and updated bill impacts in Section 4, which is sponsored by Suhila Nouri Nutile.

II. CAPITAL INVESTMENT PLAN

Q. What are the revised levels of spending that the Company is proposing in the Gas ISR Plan?

A. For FY 2018, the Company proposes revised ISR spending totaling $101.76 million, including $34.73 million for non-discretionary capital expenditures (i.e., work required by legal, regulatory code and/or agreement or a result of damage or failure with limited exception) and $66.46 million for discretionary capital expenditures. Table 1 of the Gas ISR Plan reflects revisions to certain program categories within the non-discretionary and discretionary programs, as well as the total revised spending for each such category.

Q. Is the Company proposing any reductions to the levels of spending for Non-Discretionary programs?

A. Yes, the Company is proposing to reduce the spending for Service Replacements (Reactive) - Non-Leaks/Other within the Mandated programs by $169,000. Accordingly, for each Non-Discretionary program category in the Plan, the Company proposes the following revised levels of spending:

- $12.22 million net investment for Public Works programs, including $13.55 million in capital spend and $1.33 million in reimbursements;

- $18.67 million for Mandated programs (i.e., corrosion, meter replacements, integrity management, cross bore remediation, reactive main - cast iron joint encapsulation, reactive service replacements - leaks, reactive service replacements - non-leaks/other and reactive main replacement - maintenance);

- $0.25 million for Damage or Failure programs; and

- $3.59 million for decommissioning the Cumberland LNG tank and associated facilities (see discussion below).

Q. Is the Company proposing any reductions to the levels of spending for Discretionary programs?

A. Yes, the Company is proposing to eliminate spending for work relative to Gas System Control, for a reduction of $135,000 in spending for Gas System Reliability.

Accordingly, for each Discretionary program category in the Plan, the Company proposes the following levels of spending:

- $54.11 million for Proactive Main Replacement program, including large diameter leak-prone pipe rehabilitation;
- $0.90 million for Proactive Service Replacement program;
- $11.45 million for Gas System Reliability, including work relative to System Automation, Pressure Regulating Facilities, Take Station Refurbishment, Heater Systems, Gas System Reliability Enhancement, LNG facilities, Valve Installation/Replacements, and Tools and Equipment; and
- $0.57 million for Operations and Maintenance (O&M) expense for the continued payment of 16 personnel hired to support the increase in leak-prone pipe replacement.

Q. What level of spending is the Company proposing to include for the decommissioning of the Cumberland LNG Tank for FY 2018?

The Company is proposing total spending of $3.589 million for Phase 3 of the decommissioning, which includes the final demolition of the tank. This estimate is considered a Level II estimate, which has a projected accuracy of +/- 25 percent. The Company derived this estimate by applying its standard estimation process, which incorporates the appropriate levels of Company contingency, construction oversight and capital overhead allocations. This estimate also takes into account the following assumptions: (i) contaminant levels in the debris (PCBs, heavy metals and asbestos) have not been quantified, but worst case (>50 parts per billion) has been assumed; (ii)

expected duration of construction time is three months; (iii) environmental controls and permitting have been incorporated; and (iv) a forensic analysis of the tank condition that resulted in the decision to decommission.

Q. What is the expected timeline for the decommissioning work?

A. The Company expects to initiate a competitive bidding process in March 2017. The demolition work is scheduled to commence in June 2017, and the Company expects that the majority of the work will be completed in FY 2018. Final site restoration, including storm water management, is expected to occur in FY 2019, so is not part of this estimate.

III. CONCLUSION

Q. Does this conclude your supplemental testimony?

A. Yes.

Exhibit 1S-JBC (CLEAN)
Gas ISR Plan FY2018

The Narragansett Electric Company
d/b/a National Grid

Gas Infrastructure, Safety and Reliability Plan FY 2018 Proposal (Revised)

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Section 1 (CLEAN)
Introduction & Summary

Section 1

Introduction and Summary
FY 2018 Proposal

Introduction and Summary
FY 2018 Proposal

In consultation with the Rhode Island Division of Public Utilities and Carriers (Division), National Grid[1] has developed the following proposed fiscal year (FY) 2018[2] gas infrastructure, safety, and reliability (ISR) plan (Gas ISR Plan or Plan) in compliance with R.I. Gen. Laws § 39-1-27.7.1 (Revenue Decoupling Law), which provides for the filing of "[a]n annual gas 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."[3] The proposed Gas ISR Plan addresses capital spending on gas infrastructure and other costs related to maintaining the safety and reliability of the Company's gas distribution system. The proposed Plan for the Company's gas distribution operations is the product of a collaborative effort with the Division. Through the Plan, the Company will maintain and upgrade its gas delivery system by proactively replacing leak-prone gas mains and services; upgrading the system's custody transfer stations, pressure regulating systems and peak shaving plants; responding to emergency leak situations; and addressing infrastructure conflicts that arise out of state, municipal and third-party construction projects. The Plan intends to attain these safety and reliability goals through a cost-effective, coordinated work plan. The level of work that the Plan provides will sustain and enhance the safety and reliability of the Rhode Island gas pipeline infrastructure, promote

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

2 FY 2018 is defined as the 12 months ending March 31, 2018.

3 R.I. Gen. Laws § 39-1-27.7.1(c)(2).

efficiency in the management and operation of the gas distribution system, and directly benefit Rhode Island gas customers. On December 1, 2016, the Company submitted the Plan to the Rhode Island Public Utilities Commission (PUC) for review. In the initial Plan submitted on December 1, the Company explained that it would submit a revised Plan in January 2017 to include certain updated spending amounts pertinent to the Plan. The Company now submits this revised Plan to the PUC for review.[4]

This Introduction and Summary presents an overview of the proposed FY 2018 Plan for the statutory categories of costs, the resulting FY 2018 revenue requirement associated with the proposed Plan, the rate design based upon that revenue requirement, and the estimated typical bill impacts resulting from the rate design.

The proposed Gas ISR Plan describes the Company's safety and reliability activities and the multi-year plan upon which the FY 2018 Plan is based. The Plan also addresses capital investment in utility infrastructure for the upcoming fiscal year. The Plan itemizes the recommended work activities by general category and provides budgets for capital investment and associated Operations and Maintenance (O&M) expenses.

As envisioned in the Revenue Decoupling Law, after the end of the fiscal year, the Company will true up the Gas ISR Plan's budgeted levels to its actual investment and expenditures, and reconcile the revenue requirement associated with the actual investment and

[4] In accordance with R.I. Gen. Laws § 39-1-27.7.1(d), the Company and the Division must work together over the course of 60 days in an attempt to reach an agreement on a proposed Plan, which must then be submitted to the PUC for review and approval within 90 days.

expenditures with the revenue billed from the rate adjustments implemented at the beginning of each fiscal year. The Company will continue to file quarterly reports with the Division and PUC concerning the progress of its Gas ISR programs. In addition, when the Company makes its reconciliation and rate adjustment filing described below, the Company will file an annual report on the prior fiscal year's activities. In implementing the Gas ISR Plan in any fiscal year, the circumstances encountered during the year may require reasonable deviations from the original Gas ISR Plan. In such cases, the Company will include an explanation of any significant deviations in its quarterly reports.

The FY 2018 level of capital and related O&M spending provided in the Gas ISR Plan to maintain the safety and reliability of the Company's gas delivery infrastructure is $101.76 million. A description of the Company's proposed capital investment plan for FY 2018 is provided in Section 2. The revenue requirement description and calculations are contained in Section 3. A description of the rate design and bill impacts are provided in Section 4.

Section 2 includes a Special Project subsection that describes the Company's decision, as communicated to the Division on August 26, 2016, to decommission the liquefied natural gas (LNG) tank in Cumberland. Under the current plan, the expectation is that the majority of the demolition work will be completed in FY 2018. The Company proposes total spending of $3.59 million for Phase 3 of the decommissioning, which includes the final demolition of the tank. This estimate is considered a Level II estimate, which has a projected accuracy of +/- 25 percent. The Company derived this estimate by applying its standard estimation process, which

incorporates the appropriate levels of Company contingency, construction oversight and capital overhead allocations. This estimate also takes into account the following assumptions: (i) contaminant levels in the debris (PCBs, heavy metals and asbestos) have not been quantified, but worst case (>50 parts per billion (PPB)) has been assumed; (ii) expected duration of construction time is three months; (iii) environmental controls and permitting have been incorporated; and (iv) a forensic analysis of the tank condition that resulted in the decision to decommission. Final site restoration, including storm water management, is expected to occur in FY 2019, so is not part of this estimate.

Gas Capital Investment Plan

The Company's proposed gas capital investment plan set forth in Section 2 summarizes the Company's planned capital investments in terms of the following key Discretionary[5] and Non-Discretionary[6] categories:

Non-Discretionary:

A. Public Works
B. Mandated Programs
C. Damage / Failure
D. Special Project

Discretionary:

A. Proactive Main Replacement
B. Proactive Service Replacement
C. Gas System Reliability

[5] Discretionary programs are not required by legal, regulatory code and/or agreement, with limited exceptions.

[6] Non-Discretionary programs include those required by legal, regulatory code and/or agreement, or a result of damage or failure with limited exceptions.

Section 2 itemizes the proposed activities by sub-categories and provides budgets for each sub-category. The Company has included its capital budget, identified the relevant projects that would be part of the FY 2018 Gas ISR Plan, and provided its rationale for the need for and benefit of performing such work to provide safe and reliable service to its customers. The Company has also provided a five-year capital plan to provide a longer-term approach to infrastructure, safety, and reliability and to demonstrate how the FY 2018 Plan would be incorporated into that longer-term planning approach.

The Company's FY 2018 Gas ISR Plan includes the elimination or rehabilitation of a total of 61 miles of leak-prone pipe (50 miles of proactive main replacement and rehabilitation work, 10 miles of public works replacement work and 1 mile of reliability work). This rate is consistent with the weighted rate of installation and abandonment of leak-prone pipe authorized by the PUC in the FY 2017 Gas ISR Plan.

Revenue Requirement

Based upon the estimated amounts in the proposed Gas ISR Plan, the Company has provided a calculation of the proposed cumulative revenue requirement resulting from the proposed FY 2018 capital investment plan. Section 3 contains a description of the revenue requirement model for FY 2018 and an illustrative calculation for FY 2019. This calculation would form the basis for the Plan rate adjustment, which would become effective April 1, 2017, upon PUC approval. As provided in Section 3, in accordance with RIPUC NG-GAS No. 101, Section 3, Schedule A, Sheets 5-6 of the Company's gas tariff, the Company will reconcile this

rate adjustment as part of its annual Distribution Adjustment Charge filing. The pre-tax rate of return on rate base would be that rate of return approved by the PUC in the Amended Settlement Agreement in the Company's most recent general rate case, Docket No. 4323, and in the future it would change to reflect changes to the rate of return approved by the PUC in future rate case proceedings. Any change in the rate of return would be applicable on a prospective basis, effective on the date on which the change is effective.

Rate Design

For purposes of rate design, the revenue requirement associated with the capital investment is allocated to rate classes based upon the latest rate base allocator approved in the Company's Amended Settlement Agreement in Docket No. 4323. For each rate class, the allocated revenue requirement is divided by the applicable fiscal year forecasted therm deliveries to arrive at a per-therm factor unique to each rate class. The Company is allocating other related costs associated with incremental O&M costs to all rate classes on a per-unit basis.

The estimated typical bill impacts associated with the rate design and bill impacts are provided in Section 4. The bill impact of the Gas ISR Plan for the average residential heating customer for the period April 1, 2017 through March 31, 2018 would be an annual increase of $30.74, or 2.7 percent.

As demonstrated herein, the Company and the Division have worked together to arrive at a Gas ISR Plan that meets the Revenue Decoupling Law's goals of providing a safe and reliable gas distribution system for Rhode Island.

Section 2

Gas Capital Investment Plan
FY 2018 Proposal

Gas Capital Investment Plan
FY 2018 Proposal

Background

The Company developed its proposed capital investment and associated O&M expense plan to meet its obligation to provide safe, reliable, and efficient gas distribution service for customers at reasonable costs.[7] The Gas ISR Plan includes capital investment spending needed to meet state and federal regulatory requirements applicable to the Company's gas system and to maintain its distribution infrastructure in a safe and reliable condition. To address the replacement of leak-prone gas main and at-risk services, the Plan includes infrastructure, safety and reliability work for cast-iron and non-cathodically protected steel mains and services. The Plan also contains capital spending related to safety and reliability for public works, mandated programs, gas reliability, and a special project.

Consistent with the goals of the Revenue Decoupling Law, in order to continue to provide safe and reliable gas delivery service to customers, it is critical that the Company remain vigilant with respect to investing in its infrastructure and have appropriate and timely cost recovery. To that end, the Company's proposed FY 2018 Plan identifies the capital spending investment that it expects to complete during FY 2018. At the end of this section, Table 1 contains a description of the proposed budget for the FY 2018 Plan; Table 2 contains a proposed five-year spending forecast for FY 2018 through FY 2022; and Table 3 contains actual spending

[7] The Company delivers natural gas to approximately 262,000 Rhode Island residential and commercial and industrial customers in 33 cities and towns in Rhode Island. To provide this service, the Company owns and maintains approximately 3,200 miles of gas mains and approximately 195,000 gas services.

based on the prior five-year period, FY 2012 through FY 2016. The Company proposes to invest a total of $101.76 million of Plan investments, including $34.73 million for non-discretionary capital expenditures (i.e., work required by legal, regulatory code and/or agreement or a result of damage or failure with limited exception), $66.46 million for discretionary capital expenditures and $0.57 million in O&M expenditures, which would be included in the FY 2018 Gas ISR recovery mechanism.[8] The Plan is designed to maintain the safety and reliability of the Company's gas delivery infrastructure.

As set forth in Table 1 at the end of this section, the Company proposes the following levels of spending for each category of programs contained in the $101.76 million that the Company proposes for its Gas ISR Plan spending:

Non-Discretionary:

- $12.22 million net investment for Public Works programs, including $13.55 million in capital spend and $1.33 million in reimbursements;
- $18.67 million for Mandated Programs (i.e., corrosion, meter replacements, integrity management, cross bore remediation, reactive main - cast iron joint encapsulation, reactive service replacements - leaks, reactive service replacements - non-leaks/other and reactive main replacement - maintenance);
- $0.25 million for Damage or Failure programs; and
- $3.59 million for decommissioning the Cumberland LNG tank and associated facilities.

[8] For FY 2018, the Company plans to spend $125.41 million of total capital investment. Of that total amount, $24.22 million will be for projected growth and allocated spending, which is not included for recovery in the FY 2018 Gas ISR plan.

Discretionary:

- $54.11 million for Proactive Main Replacement program, including large diameter leak-prone pipe rehabilitation;
- $0.90 million for Proactive Service Replacement program;
- $11.45 million for Gas System Reliability, including work relative to System Automation, Pressure Regulating Facilities, Take Station Refurbishment, Heater Systems, Gas System Reliability Enhancement, LNG facilities, Valve Installation/Replacements, and Tools and Equipment; and
- $0.57 million for O&M expense for the continued payment of 16 personnel hired to support the increase in leak-prone pipe replacement.

As noted above, the Company will continue to file quarterly reports with the PUC and Division detailing the progress of its Gas ISR Plan programs.

Description of Large Programs and Projects

The proposed Gas ISR Plan includes a number of programs categorized under Non-Discretionary and Discretionary spending categories. Those programs are described in detail below.

Non-Discretionary Work:

A. Public Works

The purpose of the Public Works program is to address existing gas infrastructure conflicts, as appropriate, and to improve the safety and reliability of the Company's natural gas distribution system in conjunction with municipal reconstruction and water and sewer projects,

which provide significant incremental benefits to customers and communities. Municipal and water and sewer work affords the Company an opportunity to replace additional leak-prone pipe and reduce paving costs by coordinating the Company's gas main replacement work with planned third-party construction projects, while also benefitting customers and communities by improving service delivery and minimizing construction impacts and inconvenience. The Company has an ongoing plan to replace targeted gas mains on a risk-based approach. Coordinating the Company's Integrity programs with planned municipal and water and sewer projects has yielded increased system reliability, system integrity, and optimized capital spending. Although one of the primary purposes of Public Works spending is to address direct conflicts between planned third-party projects and existing gas infrastructure, Public Works spending provides the additional opportunity to coordinate other system improvement work, such as the replacement of leak-prone pipe, system reliability upgrades, elimination of redundant main, and regulator station upgrades.

The Company will manage multiple projects to address the dynamic nature of the Public Works process through effective liaison activity. While municipal schedules and plans change largely due to funding, it must be recognized that other factors also contribute to the scheduling of these projects (e.g., political, demand maintenance, etc.). Changes in municipal projects can and do create additional work in developing and coordinating the Company's planning and budgeting processes. Using the Company's five-year work planning process, the Company can provide some flexibility in scheduling, coordinating, and engineering projects in concert with municipal public works initiatives. For FY 2018, the Plan incorporates $13.55 million in

spending under the Public Works category, of which $1.33 million is anticipated to be reimbursed under agreement with third parties. Overall, the Public Works budget provides for the replacement of approximately 10 miles of leak prone gas main consisting of cast iron and unprotected steel main.

B. Mandated Programs

Spending for Mandated Programs falls into the following eight categories: Corrosion, Purchase Meter Replacement, Pipeline Integrity IMP Programs, Cross Bore Remediation, Main Replacement Reactive - CI Joint Encapsulation, Reactive Service Replacement - Leaks, Reactive Service Replacement - Non-leak /Other and Reactive Main Replacement - Maintenance.

1. **Corrosion** – Cathodic protection effectively extends the service life of buried steel facilities (as compared to unprotected buried steel facilities) and can prolong replacement by 20 years or more. In 1971, the Code of Federal Regulations, Part 192, was amended to require the cathodic protection of all new buried steel gas facilities. Protection is accomplished in part through ensuring proper coating by establishing proper conditions on pipe segments through installation of rectifiers, anodes, insulators and test stations. In addition, the Corrosion Program includes control line work at existing regulator stations and cathodic protection upgrades. For FY 2018, the Company proposes to spend $1.04 million on this program, which align costs to prior year experience.

2. **Purchase Meter Replacement** – Capital costs for the Purchase Meter Replacement Program are required for the procurement of replacement meters. For FY 2018, the

Company proposes to replace approximately 14,300 meters, which represents 5.5 percent of the existing meter population in Rhode Island, at a cost of $2.37 million.

3. **Pipeline Integrity - IMP** – This program is for the testing, modification and/or replacement of the Company's higher pressure facilities and pipelines (i.e., >124 psig). For FY 2018, this will include engineering and design work for testing and/or replacement of sections of pipe under the program. For FY 2018, the Company proposes to spend a total of $0.75 million for these projects.

4. **Cross Bore Remediation** – Under this program, the Company will conduct a camera inspection of the legacy directional drill installations to confirm that gas mains have not penetrated through sewer laterals accidentally. If this has occurred, mechanical cleaning of the sewer laterals could damage the gas main and cause gas to rush into a building. The industry has experienced several incidents resulting from sewer penetrations. The program, which is in year one, will assess and remediate all areas at risk over a five-year period. For FY 2018, the Company proposes to spend a total of $0.50 million to inspect and address potential cross bore damage.

5. **Main Replacement Reactive - CI Joint Encapsulation** – This program provides funding for the leak sealing of cast iron bell joints that are discovered during proactive leak surveys, public odor calls or other activities. For FY 2018, the Company proposes to spend $3.52 million on this work.

6. **Reactive Service Replacement - Leaks** – The service leak repair program addresses leaking gas services through insertion, replacement and/or abandonment. For FY 2018, the Company proposes to spend $7.26 million for the service leak repair program.

7. **Reactive Service Replacement - Non-leak Other** – The Non-leak Other program contains the capital costs for service relocations, meter protection, service abandonments and the installation of curb valves. The Company's agreement with the Division to expand curb valve installations to properties inaccessible for inside inspection will provide additional public safety benefits and complement efforts in place aimed at improving collection and meter reading opportunities in those situations where Company personnel have encountered difficulty gaining access to meters. For FY 2018, the Company proposes to spend $2.50 million on this program.

8. **Reactive Main Replacement - Maintenance** – This category of work consists of emergency main replacements or modifications because of leaks or other unplanned events where main conditions dictate immediate replacement and/or gas facilities are subject to water intrusion or exposure and require remedy. Over the past several years, the Company has received minimal requests in this category, primarily because the Company's increased Proactive Main Replacement Program work has reduced the need for such work through construction of a more resilient system. The Company proposes to spend $0.75 million in this area.

In total, the Gas ISR Plan for FY 2018 contains $18.67 million for all categories of mandated work.

C. Damage / Failure Program

The Company proposes to include funding for safety and reliability projects associated with remediation of damage or failure occurrences. Damage or failure projects are initiated in response to events outside the Company's control which require immediate action. The Company proposes a budget of $0.25 million for FY 2018 for such work.

D. Special Project

The Company has decided to decommission the LNG tank in Cumberland. The supply needed for this upcoming heating season will be obtained through additional pipeline supply and portable operations at the Cumberland facility. On August 26, 2016, the Company notified the Division of its decision to decommission the LNG tank, and the Division has indicated that it supports this decision. The plan for decommissioning will consist of three phases. Phase 1, which is estimated to cost $0.99 million, involves completing modifications to the facility to allow for utilization of portable tankers. Phase 2, which is estimated to cost $1.38 million, will address emptying liquids and purging of gaseous vapors from the tank. The Company expects to complete the work for Phase 1 and Phase 2 in FY 2017 and will include the actual costs for such work in its FY 2017 reconciliation filing.

Phase 3 involves the final demolition of the tank. The Company expects to begin and complete the majority of this work in FY 2018. The Company proposes total spending of $3.59

million for Phase 3 of the decommissioning, which includes the final demolition of the tank. This estimate is considered a Level II estimate, which has a projected accuracy of +/- 25 percent. The Company derived this estimate by applying its standard estimation process, which incorporates the appropriate levels of Company contingency, construction oversight and capital overhead allocations. This estimate also takes into account the following assumptions: (i) contaminant levels in the debris (PCBs, heavy metals and asbestos) have not been quantified, but worst case (>50 PPB) has been assumed; (ii) expected duration of construction time is three months; (iii) environmental controls and permitting have been incorporated; and (iv) a forensic analysis of the tank condition that resulted in the decision to decommission. Final site restoration, including storm water management, is expected to occur in FY 2019, so is not part of this estimate.

In total, for FY 2018, the Gas ISR Plan contains $34.73 million for non-discretionary work, including costs associated with Phase 3 of the Cumberland LNG tank decommissioning.

Discretionary Work:

A. <u>Proactive Main Replacement Program</u>

The value of and need for targeted spending on the replacement of leak-prone gas main and services is well-documented and has been accepted by both the PUC and Division. For FY 2018, the Company forecasts spending $54.11 million on its Proactive Main Replacement and Rehabilitation programs, which will address approximately 50 miles of leak-prone gas main and 3,000 service relay, inserts or tie-ins.

1. Proactive Main Replacement (<16-inch)

The Proactive Main Replacement program (<16-inch) consists of abandonment of approximately 49 miles of cast iron and unprotected steel main with a diameter of less than 16 inches, and the renewal, abandonment or tie-over of existing services. Proactive Main Replacement program costs have increased over the past several years, in part because the proportion of cast iron gas mains that the Company is replacing has increased. Moreover, the costs for replacement of cast iron main is typically greater than unprotected bare steel due to several key factors, including the following: (1) cast iron is predominant on low and intermediate pressure systems consisting of larger diameter mains; and (2) cast iron facilities are typically centralized in urban areas where costs are driven by higher customer density, greater underground congestion (e.g., excavation), and increased restoration and traffic control. The Company has analyzed costs associated with work performed in FY 2016 and has developed budget projections based on project specific main replacement candidates identified for completion in the program. For FY 2018, the Company proposes to spend $52.11 million on the Proactive Main Replacement (<16-inch) program.

2. Proactive Large Diameter Program (>=16-inch)

The Company operates approximately 37 miles of large diameter (>=16-inch) leak-prone gas mains. The Proactive Large Diameter program consists of rehabilitating this category of leak-prone pipe through the implementation of a

sealing and lining program. For FY 2018, the Company proposes to spend a total of $2.00 million on this program to address approximately one-half to one mile of large diameter leak-prone pipe.

B. Proactive Service Replacement

At the request of the Division, the Company has assessed continuing risks associated with leak-prone services and has re-established a dedicated Proactive Service Replacement program targeted at replacement of leak-prone services. This program prioritizes leak-prone services for replacement based on an asset risk prioritization algorithm. For FY 2018, the Company proposes to spend a total of $0.90 million to replace approximately 200 services.

C. Gas System Reliability

Reliability spending includes 11 programs to address gas control and system automation, valve installation/replacement, take station, pressure regulation, heating, LNG facilities, gas network reliability and resiliency, capital tools and equipment. The proposed Gas ISR Plan contains $11.45 million in spending for Gas System Reliability. A summary of each major program is provided below:

1. Valve Installation / Replacement

Valves are used to sectionalize portions of the gas network to support both planned and unplanned field activities. Replacement of inoperable valves is necessary to ensure the Company's continued ability to effectively isolate portions of the distribution system. New valve

installations are also occasionally needed to provide the capability to reduce the size of an isolation area where existing valves would result in broader shutdown than desired. For FY 2018, the Company has budgeted $0.20 million for this work.

2. System Automation

The primary purpose of the System Automation program is to meet the Department of Transportation code requirements under 49 CFR Part 192, Docket ID 2007-27954, which were issued on December 3, 2009. These Code provisions contain the following pipeline safety requirements: (a) control room management/human factors, (b) modernization of the Company's system data and telemetry recording, and (c) increasing the level of system automation and control. The overall program will increase the safety, reliability, and efficiency of the gas system and, by extension, the level of service the Company provides to its customers.

The Company's ability to provide safe and reliable service is governed to a large extent by the Company's ability to maintain adequate pressure in its gas mains. To accomplish this task, the Company has approximately 195 gas pressure regulator stations disbursed throughout its Rhode Island gas service territory. Although a limited number of these regulator stations have full system telemetry and control capability, most do not. In addition to monitoring and controlling the

regulator stations, the Company must also monitor system end points to ensure that adequate system pressures are being maintained in remote areas under a variety of operating conditions. For FY 2018, the Company is proposing to level fund spending of $1.00 million for its System Automation and Control program. The Company's proposal will provide AC power, telemetry and/or remote control to approximately 40 sites.

4. Heater Program

The Heater installation program provides for the installation and replacement of gas system heaters, which are operated to ensure proper conditioning and control of gas temperatures at key Company facilities. The Company plans to engineer and construct heaters at the Company's Cranston station during FY 2018 and FY 2019. The Company will spend $0.2 million for the preliminary work on the project during FY 2018.

5. Pressure Regulating Facilities

The pressure regulating facilities have been designed to reliably control gas distribution system pressures and maintain continuity of supply during normal and critical gas demand periods. Each station has specific requirements for flows and pressures based on the anticipated needs of the station. A facility includes both pressure-regulating piping and equipment as well as control lines, but it may also include a heater or a scrubber. The Company has instituted a program that

provides for condition-based assessments of all stations. Accepted engineering guidelines provide for design, planning, and operation of these gas distribution facilities. Applicable state and federal codes are followed to help ensure safe and continuous supply of natural gas to the Company's customers and the communities it serves. The Company's proposed Plan includes enhancements in response to station work prioritized through condition-based assessments, which include, in part, station accessibility, pipe condition (i.e., corrosion), water intrusion, redundancy, station isolation, and common mode failure. Regulator station replacements are planned at two sites in East Providence. The Company will spend $1.64 million during FY 2018 for this category.

6. Allens Avenue Multi Station Rebuild Project

The Allens Avenue project is a multi-year project designed to replace or retire seven existing pressure regulating facilities at the major gas interchange. The work includes the abandonment and/or removal of obsolete pipe and equipment in support of the safety and reliability of the Company's system at this location. For FY 2018, the Company proposes to spend $2.97 million for this project.

7. Take Station Refurbishments

The Take Station Refurbishment program will address required modifications to the Company's custody transfer stations. There are two projects identified for FY 2018 to provide for protection from over-pressurization. Projects include

modifications at the Dey Street and Wampanoag Trail stations in East Providence. The Company will spend $0.80 million during FY 2018 for this program.

8. Gas System Reliability – Gas Planning Program

The Gas Planning program identifies projects that support system reliability through standardization and simplification of system operations (e.g., system up-ratings and de-ratings and regulator elimination), integration of systems (e.g., tie-ins), and new supply sources (e.g., take stations). For FY 2018, the Company proposes to spend approximately $2.25 million for five projects in its Gas Planning program. Three of these projects will assist in eliminating single-feed systems, one will provide for system interconnection and one will address flood-prone areas in Bristol. The projects include the added benefit of replacing approximately one mile of leak-prone pipe.

9. Instrumentation & Regulation (I&R) Reactive Program

The I&R Reactive program is established to address capital project requirements over and above the Pressure Regulation Capital budget. Projects range from instrumentation replacement due to failure; replacement of obsolete/unreliable equipment, such as regulators, pilots, boilers, heat exchangers, odorant equipment, station valves; and replacement of building roofs or doors due to deterioration. The Company proposes to spend $1.30 million in this program.

10. LNG Blanket

The LNG Blanket program is established to address capital project requirements at the Company's Exeter LNG plant. Major projects include a Supervisory Control and Data Acquisition (SCADA) upgrade and a vibration monitor. The Company proposes to spend $0.59 million in this program.

11. Capital Tools & Equipment

Capital tools include tools and equipment required to support performance of work contained in the Gas ISR Plan and to provide for safety and reliability of the gas distribution system. The Company will spend $0.50 on capital tools and equipment during FY18.

In total, for FY 2018, the proposed Gas ISR Plan contains $66.46 million for Discretionary work.

O&M Spending

To support the increase in the Proactive Main Replacement program, in FY 2015 and FY 2016 the Company hired and trained 16 additional personnel to work on the Main Replacement Program. For FY 2018, the Company proposes to include $0.57 million of O&M expenses to pay for these necessary resources to address leak-prone pipe replacement. As in FY 2015 and FY 2016, the total amount of O&M expenses will be tracked and reconciled in the Company's next annual Gas ISR reconciliation filing.

Five-Year Gas ISR Investment Plan

As of December 31, 2015, approximately 1,237 miles, or 39 percent, of the 3,210 miles in the Company's gas distribution system in Rhode Island is made up of leak-prone pipe. The 1,237 miles of leak-prone pipe are comprised of 452 miles of unprotected steel and 785 miles of cast iron and wrought iron gas main. At the current pace of proposed replacement, the Company will eliminate or rehabilitate all cast iron, wrought-iron and unprotected steel main and services within the next 19 years.

The Company's proposed five-year Gas ISR investment plan is provided in Table 2. This table contains the approved FY 2017 plan spending along with spending projected within each of the primary categories for the period FY 2018 through FY 2022.

The Company's prior five-year Gas ISR investment plan actual spend is provided in Table 3.

Table 1

Narrangansett Gas
FY2018
($000)

	Budget	Revision	Revised Total
NON-DISCRETIONARY			
Public Works			
CSC/Public Works - Non-Reimbursable	$12,218		
CSC/Public Works - Reimbursable	$1,327		
CSC/Public Works - Reimbursements	-$1,327		
Public Works Total	**$12,218**	**$0**	**$12,218**
Mandated Programs			
Corrosion	$1,042		
Purchase Meter (Replacements)	$2,367		
Pipeline Integrity IMP (Integrity Management Program)	$750		
Cross Bore Remediation	$495		
Main Replacement (Reactive) - CI Joint Encapsulation	$3,519		
Service Replacement (Reactive) - Leaks	$7,256		
Service Replacements (Reactive) - Non-Leaks/Other	$2,667	-$169	
Main Replacement (Reactive) - Maintenance (incl Water Intrusion)	$745		
Mandated Total	**$18,841**	**-$169**	**$18,672**
Damage / Failure (Reactive)			
Damage / Failure Total	$250	$0	**$250**
Special Project			
Cumberland LNG Decommissioning	TBD	$3,589	**$3,589**
NON-DISCRETIONARY TOTAL	**$31,309**	**$3,420**	**$34,729**
DISCRETIONARY			
Proactive Main Replacement			
Main Replacement (Proactive) - Leak Prone Pipe	$52,106		
Main Replacement (Proactive) - Large Diameter LPCI Program	$2,000		
Proactive Main Replacement Total	**$54,106**	**$0**	**$54,106**
Proactive Service Replacement			
Proactive Service Replacement Total	$900	$0	**$900**
Reliability			
Gas System Control	$135	-$135	
Valve Installation/Replacement	$200		
System Automation	$1,000		
Heater Program	$200		
Pressure Regulating Facilities	$1,640		
Allens Ave Multi Station Rebuild	$2,970		
Take Station Refurbishment	$800		
Gas System Reliability - Gas Planning	$2,250		
I&R - Reactive	$1,300		
LNG - Blanket	$590		
Tools & Equipment	$500		
Reliability Total	**$11,585**	**-$135**	**$11,450**
DISCRETIONARY TOTAL	**$66,591**	**-$135**	**$66,456**
Capital Spending Total	**$97,900**	**$3,285**	**$101,185**
O&M	**$571**	**$0**	**$571**
Gas ISR Plan Total	**$98,471**	**$3,285**	**$101,756**

Table 2

RI Gas ISR Spending Forecast
($000)

Investment Categories	FY17 Approved Plan	FY18	FY19	FY20	FY21	FY22	FY18 to FY22 TOTAL
NON-DISCRETIONARY							
Public Works	$ 11,230	$ 12,218	$ 13,776	$ 15,404	$ 17,105	$ 17,532	$ 76,035
Mandated Programs	$ 15,364	$ 18,672	$ 18,621	$ 21,892	$ 22,323	$ 22,767	$ 104,275
Damage / Failure	$ -	$ 250	$ 255	$ 260	$ 265	$ 271	$ 1,301
Cumberland Decommissioning	$ -	$ 3,589	$ 2,000	$ -	$ -	$ -	$ 5,589
NON-DISCRETIONARY TOTAL	$ 26,594	$ 34,729	$ 34,652	$ 37,556	$ 39,693	$ 40,569	$ 187,200
DISCRETIONARY							
Proactive Main Replacement	$ 49,632	$ 54,106	$ 64,799	$ 67,201	$ 71,929	$ 71,066	$ 329,101
Proactive Service Replacement	$ -	$ 900	$ 918	$ 936	$ 955	$ 974	$ 4,683
Reliability	$ 9,250	$ 11,450	$ 13,886	$ 12,717	$ 15,824	$ 12,742	$ 66,619
Special Projects	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DISCRETIONARY TOTAL	$ 58,882	$ 66,456	$ 79,603	$ 80,854	$ 88,708	$ 84,782	$ 400,403
Capital Total	$ 85,476	$ 101,185	$ 114,255	$ 118,410	$ 128,402	$ 125,352	$ 587,603
O&M Total	$ 571	$ 571	$ 582	$ 594	$ 606	$ 618	$ 2,972
GAS ISR TOTAL	**$ 86,047**	**$ 101,756**	**$ 114,837**	**$ 119,004**	**$ 129,008**	**$ 125,970**	**$ 590,575**

Proactive Main Replacement includes large diameter program.
Reactive Main is included in Mandated Programs.

Table 3

RI Gas ISR Spend Historical

($000)

Investment Categories	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
NON-DISCRETIONARY					
Public Works	$ 3,312	$ 1,910	$ 3,190	$ 7,207	$ 7,732
Mandated Programs*	$ 14,917	$ 12,390	$ 15,980	$ 15,415	$ 16,861
Damage / Failure	$ -	$ -	$ -	$ -	$ -
NON-DISCRETIONARY TOTAL	$ 18,229	$ 14,300	$ 19,170	$ 22,622	$ 24,593
DISCRETIONARY					
Proactive Main Replacement	$ 25,989	$ 34,590	$ 41,790	$ 40,904	$ 58,386
Proactive Service Replacement	$ 3,252	$ 3,890	$ 2,550	$ 1,121	$ 1,789
Reliability	$ 9,795	$ 7,100	$ 8,720	$ 8,968	$ 7,914
Special Projects	$ -	$ -	$ 880	$ 3,728	$ 1,188
DISCRETIONARY TOTAL	$ 39,036	$ 45,580	$ 53,940	$ 54,721	$ 69,276
Capital Total	$ 57,265	$ 59,880	$ 73,110	$ 77,343	$ 93,869
O&M	$ -	$ -	$ -	$ 503	$ 464
GAS ISR TOTAL	**$ 57,265**	**$ 59,880**	**$ 73,110**	**$ 77,846**	**$ 94,333**

Reactive Main is included in Mandated Programs

Section 3 (CLEAN)
Revenue Requirement

Section 3

Revenue Requirement
FY 2018 Proposal

Revenue Requirement
FY 2018 Proposal

The attached proposed revenue requirement calculation reflects the revenue requirement related to the Company's proposed investment in its Gas ISR Plan for the fiscal year ended March 31, 2018.

As demonstrated on Attachment 1S, Page 1, Column (b), the Company's Gas ISR Plan cumulative revenue requirement totals $36,550,952, which is an incremental $10,964,501 over the amount currently being billed for the Gas ISR Plan. The revenue requirement consists of the following elements: (1) O&M expenses of $571,000 associated with hiring, training, and supervision of additional personnel to support the increase in leak-prone pipe replacement for FY 2018, as described in Section 2 of the Plan; (2) the revenue requirement of $3,928,534 on FY 2018 proposed non-growth ISR capital investment of $101,185,000, as calculated on Attachment 1S, Page 2, plus the FY 2018 revenue requirement on incremental non-growth ISR capital investment for FY 2012 through FY 2017 totaling $24,908,887; (3) FY 2018 property tax expenses of $7,699,824, as shown on Attachment 1S, Page 18, in accordance with the property tax recovery mechanism included in the Amended Settlement Agreement in Docket No. 4323; and (4) prior year adjustments related to the work order write off, discussed in more detail below, in the amount of ($532,674) related to capital investment and ($24,620) related to property tax. Importantly, the incremental capital investment for the FY 2018 ISR revenue requirement excludes capital investment embedded in the base rates in Docket No. 4323 for FYs 2012 through 2014. Incremental non-growth capital investment for this purpose is intended to represent the net change in net plant for non-growth infrastructure investments during the

relevant FY and is defined as capital additions plus cost of removal, less annual depreciation expense ultimately embedded in the Company's base rates (excluding depreciation expense attributable to general plant, which is not eligible for inclusion in the Gas ISR Plan).

For illustration purposes only, Attachment 1S, Page 1, Column (c) provides the FY 2019 revenue requirement for the respective vintage year capital investments. Notably, these amounts will be trued up to actual investment activity after the conclusion of the fiscal year, with rate adjustments for the revenue requirement differences incorporated in future ISR filings.

Additionally, the Company has adjusted prior vintage year revenue requirement calculations to address an adjustment that was recorded in the Company's FY 2016 annual report, in which it wrote off certain work orders that had been charged to plant in FY 2013 through FY 2016 that should have been charged to expense.

Gas Infrastructure Investment

Incremental Capital Investment

As noted above, Attachment 1S, Page 2 calculates the revenue requirement of incremental capital investment associated with the Company's FY 2018 Gas ISR Plan, that is, gas infrastructure investment (net of general plant) incremental to the amounts embedded in the Company's base distribution rates. The proposed capital investment, including cost of removal, was obtained from Table 1 in Section 2 of the Plan. The FY 2018 revenue requirement also includes the incremental capital investment associated with the Company's FY 2012 through FY

2017 ISR Plans, excluding investments reflected in rate base in Docket No. 4323 for FY 2012 through FY 2014.

Attachment 1S, Page 16 calculates the incremental FY 2012 through FY 2014 ISR capital investment and the related incremental cost of removal and incremental retirements for the FY 2018 ISR revenue requirement. The calculations on Page 16 compare ISR-eligible capital investment, cost of removal, and retirements for FY 2012 through FY 2014 to the corresponding amounts reflected in the rate base in Docket No. 4323.

Gas Infrastructure Revenue Requirement

The revenue requirement calculation on incremental gas infrastructure investment for vintage year FY 2018 is shown on Attachment 1S, Page 2. The revenue requirement calculation incorporates the incremental Gas ISR Plan capital investment, cost of removal, and retirements, which are the basis for determining the three components of the revenue requirement: (1) the return on investment (i.e., average 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 Plan rate base. Because depreciation expense is affected by plant retirements, retirements have been deducted from the total allowed capital included in the 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, plant retirements have been estimated based on the percentage of actual retirements to additions during

FY 2016 of 3.53 percent and have been deducted from the total depreciable capital amount as shown on Lines 1 through 3. Incremental book depreciation expense on Line 12 is computed based on the net depreciable additions from Line 3 at the 3.38 percent composite depreciation rate as approved in Docket No. 3943,[9] and as shown on Line 9. 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 7, is combined with the incremental depreciable amount from Line 6 (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 8 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 8 and accumulated depreciation and accumulated deferred tax reserves as shown on Lines 13 and 19, respectively. The deferred tax amount arising from the capital investment, as calculated on Lines 14 through 19, equals the difference between book depreciation and tax depreciation on the capital investment, multiplied by the effective tax rate, net of any tax net operating losses (NOL) and deferred tax proration. The calculation of tax depreciation is described below. The average rate base is shown on Line 24. This amount is multiplied by the pre-tax rate of return approved by the PUC 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. Incremental depreciation expense is

[9] The Company did not change depreciation rates in Docket No. 4323, so the applicable depreciation rate was approved in the Company's prior rate case, Docket No. 3943.

added to this amount on Line 27. The sum of these amounts reflects the annual revenue requirement associated with the capital investment portion of the Plan on Line 29, which is carried forward to Page 1 as part of the total Plan revenue requirement. Similar revenue requirement calculations for the vintage FY 2017, FY 2016, FY 2015, FY 2014, FY 2013, and FY 2012 incremental Plan capital investment are shown on Attachment 1S at Pages 4, 6, 8, 10, 12 and 14, respectively. The work order write off adjustment is reflected in the revenue requirement calculations, on the respective pages noted above, on Line 1a and Line 7a, for vintage FY 2016 and FY 2015 capital investment. This adjustment is also reflected in the incremental capital investment summary at Attachment 1S, Page 16, on Line 1a and Line 4a, for vintage FY 2014 and FY 2013 capital investment. The cumulative revenue requirement reduction of $532,674 as a result of the work order write off adjustment for FY 2013 through FY 2016 on capital investment is reflected on Attachment 1S, Page 1, Line 10a. A summary of the amount of the work order write off adjustments by vintage year, and the year-by-year revenue requirement impact of those adjustments, is provided on Attachment 1S, Page 24. The reduction of $24,620 as a result of the work order write off adjustment on the property tax recovery mechanism is reflected on Attachment 1S, Page 17. The cumulative revenue requirement effect for FY 2013 through FY 2016 on property tax is reflected on Attachment 1S, Page 1, Line 10b. These capital investment revenue requirement and property tax amounts are summarized on Line 11 and have been added to the total O&M expense on Attachment 1S, Page 1, Line 1, and the total property tax recovery on Page 1, Line 10, to derive the total FY 2018 Gas ISR Plan revenue

requirement of $36,550,952, as shown on Page 1, Line 12. This represents a $10,964,501 increase from the FY 2017 Gas ISR Plan revenue requirement, as shown on Line 13.

Tax Depreciation Calculation

The tax depreciation calculation for FY 2018 is provided on Attachment 1S, Page 3. The tax depreciation amount assumes that a portion of the capital investment, as shown on Line 1, will be eligible for immediate deduction on the Company's fiscal year federal income tax return. The immediate deductibility is referred to as the capital repairs deduction.[10] In addition, plant additions not subject to the capital repairs deduction may be subject to bonus depreciation as shown on Page 3, Lines 4 through 12 for FY 2018. During 2010, Congress passed the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Tax Act), which provided for an extension of bonus depreciation. Specifically, the Tax Act provided 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 31, 2012. The 50 percent bonus depreciation rate was later extended through

[10] In 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 fiscal year 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 Gas ISR Plan.

December 31, 2013 and then extended further through December 31, 2017 via the Protecting Americans from Tax Hikes (PATH) Act. The PATH Act also extended bonus depreciation through 2019 with the rate phasing down to 40 percent in 2018 and 30 percent in 2019. In accordance with the PATH Act, capital investments made from January 2012 through December 2017 are eligible for 50 percent bonus depreciation and capital investments made from January 2018 through March 2018 are eligible for 40 percent depreciation, as shown on Page 3, Lines 9 and 10 for FY 2018.

Finally, the remaining plant additions not deducted as bonus depreciation are then subject to the IRS Modified Accelerated Cost-Recovery System (MACRS) tax depreciation rate. The IRS also clarified its tangible property regulations and, as a result, the Company submitted an election with the IRS pursuant to 26 U.S.C. § 481(a) to apply for a change in accounting method regarding the treatment of gains or losses on asset retirements which are characterized as partial retirements for tax purposes. This election was submitted to the PUC, as required under IRS rules, on December 17, 2015. The late partial disposition election was made to protect the Company's deduction of cost of removal. Otherwise, the Company would have been required to make a § 481(a) adjustment to reverse all historical cost of removal deductions, resulting in a substantial reduction in deferred tax liabilities. Because the Company made the election, cost of removal remains 100 percent deductible. The vintage FY 2015 through FY 2018 tax depreciation calculations in this filing now include an additional tax deduction related to this change in accounting issue.

The total amount of tax depreciation equals the amount of capital repairs deduction plus the bonus depreciation deduction, MACRS depreciation, tax loss on retirements, and cost of removal. These annual total tax depreciation amounts are carried forward to Attachment 1S, Page 2, Line 10, and incorporated in the deferred tax calculation. Similar tax depreciation calculations are provided for FY 2017 through FY 2012 on Attachment 1S, Pages 5, 7, 9, 11, 13 and 15, respectively.

Federal Net Operating Loss

Tax NOLs are generated when the Company has tax deductions on its income tax returns that exceed its taxable income. The tax NOLs do not mean that the Company is suffering losses in its financial statements. Instead, the Company's tax NOLs are the result of the significant tax deductions that have been generated in recent years by the bonus depreciation and capital repairs tax deductions. In addition to first-year bonus tax depreciation, the Internal Revenue Code allows the Company to classify certain costs as repairs expense, which the Company takes as an immediate deduction on its income tax return. However, such costs are recorded as plant investment on the Company's books. These significant bonus depreciation and capital repairs tax deductions have exceeded the amount of taxable income reported in tax returns filed for FY 2009 to FY 2015, with the exception of FY 2011. NOLs are recorded as non-cash assets on the Company's balance sheet and represent a benefit that the Company and customers will receive when the Company is able to realize actual cash savings and applies the NOLs against taxable income in the future. If the Company is able to utilize any of its currently accumulated NOLs in

future tax years, that benefit will flow to customers in the particular fiscal year the benefit is reflected in the Company's federal income tax return.

NOLs are an offset to the Company's accumulated deferred income taxes. Accumulated deferred income taxes, which equal the difference between book depreciation and tax depreciation on ISR capital investment, multiplied by the effective tax rate, are included as a credit or reduction in the calculation of rate base. However, because the Company was not able to fully utilize all of its tax deductions, tax NOLs were recorded to offset a portion of the rate base reduction for accumulated deferred income taxes.

As indicated above, the Company has generated NOLs on its fiscal year tax returns from FY 2009 to FY 2015, with the exception of FY 2011. In addition, the Company filed its FY 2016 federal income tax return in December 2016, which again reflects tax deductions that exceed taxable income, and which generates a new NOL for FY 2016. The Company currently estimates that deductions will exceed taxable income in FY 2017, which will generate a NOL for that year. The Company currently estimates that deductions will not exceed taxable income for FY 2018 and, therefore, does not estimate that a NOL will be generated for FY 2018. In previous Gas ISR Plan filings, the Company had not reflected NOLs for any fiscal years for which federal income tax returns had not been filed. The filing of the Company's federal income tax returns in the month of December following the completion of the Company's fiscal year has lagged the filing of each fiscal year's Gas ISR Plan submission by approximately 24 months. This phenomenon had caused the Company to understate its Gas ISR Plan revenue requirements in prior years, resulting in significant increases to the Company's revenue requirement with the

filing of its annual reconciliation of actual Plan investment activity to the investment amounts included in the Gas ISR Plan. The annual reconciliations are filed by August 1 following the completion of each fiscal year, and in recent years also had to be trued up to reflect the impact of NOLs generated in fiscal year tax returns that were not known at the time and were not estimated at the time the Company prepared its Gas ISR Plans for those years. The PUC expressed concern about this phenomenon after the Company filed its FY 2017 Gas ISR Plan in Docket No. 4590. That plan was filed in November 2015 prior to the December 2015 filing of the Company's FY 2015 federal income tax return, in which new NOLs were generated. During the travel of that proceeding, and after the Company's FY 2015 tax return had been filed, the PUC requested that the Company update its FY 2017 Gas ISR Plan revenue requirement to include the FY 2015 NOL since it later became known, and to mitigate the impact of NOLs on the subsequent Gas ISR Plan reconciliation filings. In response to the developments in the FY 2017 Gas ISR Plan filing, and because other elements of the Plan are also based on estimates, the Company is reflecting estimates of NOLs it expects to generate on its FY 2016 federal income tax return, as mentioned above. In addition, the FY 2018 Gas ISR Plan revenue requirement calculation includes an estimate of a NOL the Company is likely to generate in FY 2017, although the Company estimates it will have taxable income in FY 2018. Actual and estimated NOLs can be found in the each vintage year revenue requirement calculations on Attachment 1S, Pages 2, 4, 6, 8, 10, 12 and 14, respectively. If the Company is able to utilize any of its currently accumulated NOLs in future tax years, the benefit will be flowed through to customers.

Accumulated Deferred Income Tax Proration Adjustment

The Gas ISR Plan includes a proration calculation with respect to the accumulated deferred income tax (ADIT) balance included in rate base. The calculation fulfills requirements set out under IRS Regulation 26 C.F.R. §1.167(l)-1(h)(6). This regulation sets forth normalization requirements for regulated entities so that the benefits of accelerated depreciation are not passed back to customers too quickly. The penalty of a normalization violation is the loss of all federal income tax deductions for accelerated depreciation, including bonus depreciation. Any regulatory filing which includes capital expenditures, book depreciation expense and ADIT related to those capital expenditures must follow the normalization requirements. When the regulatory filing is based on a future period, the deferred tax must be prorated to reflect the period of time that the ADIT balances are in rate base. This filing includes FY 2018 and FY 2019 proration calculations at Page 22 and Page 23, respectively, the effects of which are included in each year's respective revenue requirement.

Property Tax Recovery Adjustment

The Property Tax Recovery Adjustment is set forth on Attachment 1S, Pages 17 through 19. The method used to recover property tax expense under the Gas ISR Plan was modified by the Amended Settlement Agreement in Docket No. 4323. In determining the base on which property tax expense is calculated for purposes of the Plan revenue requirement, the Company includes an amount equal to the base-rate allowance for depreciation expense and depreciation expense on incremental Plan plant additions in the accumulated reserve for depreciation that is deducted from plant-in-service. The Property Tax Recovery Adjustment also includes the

impact of any changes in the Company's effective property tax rates on base-rate embedded property, plus cumulative Plan net additions. Property tax impacts associated with non-Plan plant additions are excluded from the property tax recovery formula. This provision of the Amended Settlement Agreement in Docket No. 4323 took effect for Plan property tax recovery periods subsequent to the end of the rate year in that docket, or January 31, 2014. The FY 2018 revenue requirement includes $7,699,824 for the net Property Tax Recovery Adjustment, with an additional adjustment of ($24,620) relating to the impact of the work order write off.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Annual Revenue Requirement Summary

Line No.		As Approved Fiscal Year 2017 (a)	Fiscal Year 2018 (b)	Fiscal Year 2019 (c)
	Operation and Maintenance Expenses			
1	Forecasted Gas Infrastructure, Safety, and Reliability O&M Expenses	$571,000	$571,000	
	Capital Investment:			
2	Actual Revenue Requirement on Incremental FY 2012 Capital included in ISR Rate Base	$1,074,212	$1,059,435	$1,042,544
3	Actual Revenue Requirement on Incremental FY 2013 Capital included in ISR Rate Base	$305,675	$259,032	$275,151
4	Actual Revenue Requirement on Incremental FY 2014 Capital included in ISR Rate Base	$3,439,565	$3,303,452	$3,248,664
5	Actual Annual Revenue Requirement on FY 2015 Capital Included in ISR Rate Base	$6,842,106	$6,555,992	$6,360,344
6	Actual Annual Revenue Requirement on FY 2016 Capital Included in ISR Rate Base	$5,358,825	$7,715,333	$7,474,594
7	Forecasted Annual Revenue Requirement on FY 2017 Capital Included in ISR Rate Base	$3,234,197	$6,015,643	$5,800,060
8	Forecasted Annual Revenue Requirement on FY 2018 Capital Included in ISR Rate Base		$3,928,534	$7,595,339
9	Total Capital Investment Revenue Requirement	$20,254,580	$28,837,421	$31,796,695
10	Forecasted Annual Property Tax Recovery Mechanism	$4,760,871	$7,699,824	
10a	True-Up for FY 2013 through FY 2016 Work Order Write Off: Capital Investment Related	$0	($532,674)	
10b	True-Up for FY 2013 through FY 2016 Work Order Write Off: Property Tax Related		($24,620)	
11	**Total Capital Investment Component of the Revenue Requirement**	**$25,015,451**	**$35,979,952**	
12	Total Fiscal Year Revenue Requirement	**$25,586,451**	**$36,550,952**	
13	**Total Incremental Fiscal Year Rate Adjustment**		**$10,964,501**	

Column Notes

(a) As approved in Docket No. RIPUC 4590

Line Notes

1	O&M Expense per Exhibit DGI-1 Section 2, Table 1.
2(b)-(c)	From Page 14 of 25, Line 33
3(b -(c)	From Page 12 of 25, Line 33
4(b)-(c)	From Page 10 of 25, Line 35
5(b)-(c)	From Page 8 of 25, Line 29
6(b)-(c)	From Page 6 of 25, Line 29
7(b)-(c)	From Page 4 of 25, Line 29
8(b)-(c)	From Page 2 of 25, Line 29
9	Sum of Lines 2 through 8
10	From Page 18 of 25, Line 96(g)
10a	From Page 24 of 25 , Line 12(d)
10b	From Page 17 of 25 , Line 62b
11	Line 9 + Line 10 + Line 10a
12	Line 1 + Line 11
13	Line 12(b) - Line 12(a)

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Computation of Revenue Requirement on FY 2018 Forecasted Gas Capital Investment

Line No.				Fiscal Year 2018 (a)	Fiscal Year 2019 (b)
	Depreciable Net Capital Included in ISR Rate Base				
1	Total Allowed Capital Included in ISR Rate Base in Current Year	Per Company's books		$93,177,000	$0
2	Retirements	Line 1 * Retirement rate	1/	$3,289,148	$0
3	Net Depreciable Capital Included in ISR Rate Base	Column (a) = Line 1 - Line 1a - Line 2; Column (b) = Prior Year Line 3		$89,887,852	$89,887,852
	Change in Net Capital Included in ISR Rate Base				
4	Capital Included in ISR Rate Base	Line 1		$93,177,000	$0
5	Depreciation Expense	Per Settlement Agreement Docket No. 4323, excluding General Plant		$24,356,183	$0
6	Incremental Capital Amount	Column (a) = Line 4 - Line 5; Column (b) = Prior Year Line 6		$68,820,817	$68,820,817
7	Cost of Removal	Per Company's books		$8,008,000	$8,008,000
8	**Net Plant Amount**	**Line 6 + Line 7**		**$76,828,817**	**$76,828,817**
	Deferred Tax Calculation:				
9	Composite Book Depreciation Rate	As Approved in R.I.P.U.C. Docket No. 3943 & 4323		3.38%	3.38%
10	Tax Depreciation	Page 3 of 25, Line 21		$86,780,655	$1,098,261
11	Cumulative Tax Depreciation	Prior Year Line 11 + Current Year Line 10		$86,780,655	$87,878,916
12	Book Depreciation	Column (a) = Line 3 * Line 9 * 50% ; Column (b) = Line 3 * Line 9		$1,519,105	$3,038,209
13	Cumulative Book Depreciation	Prior Year Line 13 + Current Year Line 12		$1,519,105	$4,557,314
14	Cumulative Book / Tax Timer	Line 11 - Line 13		$85,261,550	$83,321,602
15	Effective Tax Rate			35.00%	35.00%
16	Deferred Tax Reserve	Line 14 * Line 15		$29,841,543	$29,162,561
17	Less: FY 2018 Federal NOL	Estimated NOL, per Tax Department		$0	$0
18	Proration Adjustment	Col (a) = Page 22 of 25, Line 40; Col (b) = Page 23 of 25, Line 40		($2,480,673)	$368,634
19	Net Deferred Tax Reserve	Line 16 + Line 17 + Line 18		$27,360,870	$29,531,195
	ISR Rate Base Calculation:				
20	Cumulative Incremental Capital Included in ISR Rate Base	Line 8		$76,828,817	$76,828,817
21	Accumulated Depreciation	- Line 13		($1,519,105)	($4,557,314)
22	Deferred Tax Reserve	- Line 19		($27,360,870)	($29,531,195)
23	Year End Rate Base before Deferred Tax Proration	Sum of Lines 20 through 22		$47,948,842	$42,740,308
	Revenue Requirement Calculation:				
24	Average ISR Rate Base	Column (a) = Current Year Line 23 ÷ 2; Column (b) = (Prior Year Line 23 + Current Year Line 22) ÷ 2		$23,974,421	$45,344,575
25	Pre-Tax ROR		2/	10.05%	10.05%
26	Return and Taxes	Line 24 * Line 25		$2,409,429	$4,557,130
27	Book Depreciation	Line 12		$1,519,105	$3,038,209
28	Property Taxes		3/	$0	$0
29	**Annual Revenue Requirement**	**Sum of Lines 26 through 28**		**$3,928,534**	**$7,595,339**

1/ Assumes 3.53% retirement rate based on FY 2016 actual retirements (Per Page 6 of 25, Line 2(a) ÷ Line 1(a))

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

	Ratio	Rate	Weighted Rate	Taxes	Return
Long Term Debt	49.95%	5.70%	2.85%		2.85%
Short Term Debt	0.76%	0.80%	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%		7.54%	2.51%	10.05%

3/ Property taxes calculated on Pages 17 through 19 of 25 for all vintage years commencing with FY14 and reflected in total on Page 1 at Line 10.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of Tax Depreciation and Repairs Deduction on FY 2018 Capital Investments

Line No.				Fiscal Year 2018 (a)	Fiscal Year 2019 (b)
	Capital Repairs Deduction				
1	Plant Additions	Page 2 of 25, Line 1		$93,177,000	
2	Capital Repairs Deduction Rate	Per Tax Department	1/	68.90%	
3	Capital Repairs Deduction	Line 2 * Line 3		$64,198,946	
	Bonus Depreciation				
4	Plant Additions	Line 1		$93,177,000	
5	Less Capital Repairs Deduction	Line 3		$64,198,946	
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5		$28,978,054	
7	Percent of Plant Eligible for Bonus Depreciation	Per Tax Department		100.00%	
8	Plant Eligible for Bonus Depreciation	Line 6 * Line 7		$28,978,054	
9	Bonus Depreciation Rate (April 2017 - December 2017)	1 * 75% * 50%		37.50%	
10	Bonus Depreciation Rate (January 2018 - March 2018)	1 * 25% * 40%		10.00%	
11	Total Bonus Depreciation Rate	Line 9 + Line 10		47.50%	
12	Bonus Depreciation	Line 8 * Line 11		$13,764,576	
	Remaining Tax Depreciation				
13	Plant Additions	Line 1		$93,177,000	
14	Less Capital Repairs Deduction	Line 3		$64,198,946	
15	Less Bonus Depreciation	Line 12		$13,764,576	
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 4 - 5		$15,213,478	$15,213,478
17	20 YR MACRS Tax Depreciation Rates	IRS Publication 946		3.750%	7.219%
18	Remaining Tax Depreciation	Line 6 * Line 7		$570,505	$1,098,261
19	FY18 tax (gain)/loss on retirements	Per Tax Department	2/	$238,628	
20	Cost of Removal	Page 2 of 25, Line 7		$8,008,000	
21	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 19 & 20		$86,780,655	$1,098,261

1/ Capital Repairs percentage is based on a three-year average of FYs 2013, 2014 and 2015 capital repairs rates.
2/ FY 2017 estimated tax loss on retirements is based on FY 2016 actuals (Page 7 of 25, Line 19).

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Computation of Revenue Requirement on FY 2017 Forecasted Gas Capital Investment

Line No.				Fiscal Year 2017 (a)	Fiscal Year 2018 (b)	Fiscal Year 2019 (c)
	Depreciable Net Capital Included in ISR Rate Base					
1	Total Allowed Capital Included in ISR Rate Base in Current Year	Per RIPUC Docket No. 4590		$82,515,000	$0	$0
2	Retirements	Line 1 * Retirement rate	1/	$6,130,865	$0	$0
3	Net Depreciable Capital Included in ISR Rate Base	Column (a) = Line 1 - Line 1a - Line 2; Column (b) through (c) = Prior Year Line 3		$76,384,135	$76,384,135	$76,384,135
	Change in Net Capital Included in ISR Rate Base					
4	Capital Included in ISR Rate Base	Line 1		$82,515,000	$0	$0
5	Depreciation Expense	Per Settlement Agreement Docket No. 4323, excluding General Plant		$24,356,183	$0	$0
6	Incremental Capital Amount	Column (a) = Line 4 - Line 5; Column (b) = Prior Year Line 6		$58,158,817	$58,158,817	$58,158,817
7	Cost of Removal	Per Company's books		$2,961,000	$2,961,000	$2,961,000
8	**Net Plant Amount**	**Line 6 + Line 7**		**$61,119,817**	**$61,119,817**	**$61,119,817**
	Deferred Tax Calculation:					
9	Composite Book Depreciation Rate	As Approved in R.I.P.U.C. Docket No. 3943 & 4323		3.38%	3.38%	3.38%
10	Tax Depreciation	Page 5 of 25, Line 21		$73,845,207	$890,237	$823,399
11	Cumulative Tax Depreciation	Prior Year Line 11 + Current Year Line 10		$73,845,207	$74,735,444	$75,558,843
12	Book Depreciation	Column (a) = Line 3 * Line 9 * 50% ; Column (b) = Line 3 * Line 9		$1,290,892	$2,581,784	$2,581,784
13	Cumulative Book Depreciation	Prior Year Line 13 + Current Year Line 12		$1,290,892	$3,872,676	$6,454,460
14	Cumulative Book / Tax Timer	Line 11 - Line 13		$72,554,315	$70,862,768	$69,104,383
15	Effective Tax Rate			35.00%	35.00%	35.000%
16	Deferred Tax Reserve	Line 14 * Line 15		$25,394,010	$24,801,969	$24,186,534
17	Less: FY 2017 Federal NOL	Estimated NOL, per Tax Department		($888,430)	($888,430)	($888,430)
18	Proration Adjustment	Col (b) = Page 22 of 25, Line 40; Col (c) = Page 23 of 25, Line 40		$0	$321,433	$334,133
19	Net Deferred Tax Reserve	Line 16 + Line 17 + Line 18		$24,505,580	$24,234,971	$23,632,237
	ISR Rate Base Calculation:					
20	Cumulative Incremental Capital Included in ISR Rate Base	Line 8		$61,119,817	$61,119,817	$61,119,817
21	Accumulated Depreciation	- Line 13		($1,290,892)	($3,872,676)	($6,454,460)
22	Deferred Tax Reserve	- Line 19		($24,505,580)	($24,234,971)	($23,632,237)
23	Year End Rate Base	Sum of Lines 20 through 22		$35,323,345	$33,012,170	$31,033,120
	Revenue Requirement Calculation:					
24	Average ISR Rate Base	Column (a) = Current Year Line 23 ÷ 2; Column (b) = (Prior Year Line 23 + Current Year Line 22) ÷ 2		$17,661,672	$34,167,757	$32,022,645
25	Pre-Tax ROR		2/	10.05%	10.05%	10.05%
26	Return and Taxes	Line 24 * 25		$1,774,998	$3,433,860	$3,218,276
27	Book Depreciation	Line 12		$1,290,892	$2,581,784	$2,581,784
28	Property Taxes		3/	$0	$0	$0
29	**Annual Revenue Requirement**	**Sum of Lines 26 through 28**		**$3,065,890**	**$6,015,643**	**$5,800,060**

1/ Assumes 7.43% retirement rate based on FY 2015 actual retirements (Per Page 8 of 23, Line 2(a) ÷ Line 1(a))

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

	Ratio	Rate	Weighted Rate	Taxes	Return
Long Term Debt	49.95%	5.70%	2.85%		2.85%
Short Term Debt	0.76%	0.80%	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%		7.54%	2.51%	10.05%

3/ Property taxes calculated on Pages 17 through 19 of 25 for all vintage years commencing with FY14 and reflected in total on Page 1 at Line 10.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of Tax Depreciation and Repairs Deduction on FY 2017 Capital Investments

Line No.				Fiscal Year 2017 (a)	Fiscal Year 2018 (b)	Fiscal Year 2019 (c)
	Capital Repairs Deduction					
1	Plant Additions	Page 4 of 25, Line 1		$82,515,000		
2	Capital Repairs Deduction Rate	Per Tax Department	1/	70.11%		
3	Capital Repairs Deduction	Line 2 * Line 3		$57,851,267		
	Bonus Depreciation					
4	Plant Additions	Line 1		$82,515,000		
5	Less Capital Repairs Deduction	Line 3		$57,851,267		
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5		$24,663,733		
7	Percent of Plant Eligible for Bonus Depreciation	Per Tax Department		100.00%		
8	Plant Eligible for Bonus Depreciation	Line 6 * Line 7		$24,663,733		
9	Bonus Depreciation Rate (April 2016 - December 2016)	1 * 75% * 50%		37.50%		
10	Bonus Depreciation Rate (January 2017 - March 2017)	1 * 25% * 50%		12.50%		
11	Total Bonus Depreciation Rate	Line 9 + Line 10		50.00%		
12	Bonus Depreciation	Line 8 * Line 11		$12,331,867		
	Remaining Tax Depreciation					
13	Plant Additions	Line 1		$82,515,000		
14	Less Capital Repairs Deduction	Line 3		$57,851,267		
15	Less Bonus Depreciation	Line 12		$12,331,867		
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 13 - Line 14 - Line 15		$12,331,866	$12,331,866	$12,331,866
17	20 YR MACRS Tax Depreciation Rates	IRS Publication 946		3.750%	7.219%	6.677%
18	Remaining Tax Depreciation	Line 6 * Line 7		$462,445	$890,237	$823,399
19	FY17 tax (gain)/loss on retirements	Per Tax Department	2/	$238,628		
20	Cost of Removal	Page 4 of 25, Line 7		$2,961,000		
21	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 19 & 20		$73,845,207	$890,237	$823,399

1/ Agrees to the FY 2017 Gas Plan Proposal in RIPUC Docket 4590. Capital Repairs percentage is based on a three-year average of FYs 2012, 2013 and 2014 capital repairs rates.

2/ FY 2017 estimated tax loss on retirements is based on FY 2016 actuals (Page 7 of 25, Line 19).

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Computation of Revenue Requirement on FY 2016 Actual Incremental Gas Capital Investment

Line No.				Fiscal Year 2016 (a)	Fiscal Year 2017 (b)	Fiscal Year 2018 (c)	Fiscal Year 2019 (d)
	Depreciable Net Capital Included in ISR Rate Base						
1	Total Allowed Capital Included in ISR Rate Base in Current Year	Per RIPUC Docket No. 4540		$90,072,473	$0	$0	$0
1a	Work Order Write Off Adjustment	Per Company's books		$597,976	$0	$0	$0
2	Retirements		1/	$3,177,067	$0	$0	$0
3	Net Depreciable Capital Included in ISR Rate Base	Column (a) = Line 1 - Line 1a - Line 2; Column (b) through (d) = Prior Year Line 3		$86,297,430	$86,297,430	$86,297,430	$86,297,430
	Change in Net Capital Included in ISR Rate Base						
4	Capital Included in ISR Rate Base	Line 1 - Line 1a		$89,474,497	$0	$0	$0
5	Depreciation Expense	Per Settlement Agreement Docket No. 4323, excluding General Plant		$24,356,183	$0	$0	$0
6	Incremental Capital Amount	Line 4 - Line 5		$65,118,314	$65,118,314	$65,118,314	$65,118,314
7	Cost of Removal		2/	$3,796,440	$3,796,440	$3,796,440	$3,796,440
7a	Work Order Write Off Adjustment	Per Company's books		$94,829	$0	$0	$0
8	**Net Plant Amount**	**Line 6 + Line 7 - Line 7a**		**$68,819,926**	**$68,819,926**	**$68,819,926**	**$68,819,926**
	Deferred Tax Calculation:						
9	Composite Book Depreciation Rate	As Approved in R.I.P.U.C. Docket No. 3943 & 4323		3.38%	3.38%	3.38%	3.38%
10	Tax Depreciation	Per Page 7 of 25, Line 21		$80,544,221	$965,322	$892,846	$825,986
11	Cumulative Tax Depreciation	Prior Year Line 11 + Current Year Line 10		$80,544,221	$81,509,543	$82,402,389	$83,228,375
12	Book Depreciation	Line 3 * Line 9 * 50%		$1,458,427	$2,916,853	$2,916,853	$2,916,853
13	Cumulative Book Depreciation	Prior Year Line 13 + Current Year Line 12		$1,458,427	$4,375,280	$7,292,133	$10,208,986
14	Cumulative Book / Tax Timer	Line 11 - Line 13		$79,085,795	$77,134,263	$75,110,256	$73,019,389
15	Effective Tax Rate			35.00%	35.00%	35.000%	35.000%
16	Deferred Tax Reserve	Line 14 * Line 15		$27,680,028	$26,996,992	$26,288,590	$25,556,786
17	Less: FY 2016 Federal NOL	Per Page 20 of 25, Line 12		($11,594,940)	($11,594,940)	($11,594,940)	($11,594,940)
18	Proration Adjustment	Col (c) = Page 22 of 25, Line 40; Col (d) = Page 23 of 25, Line 40		$0	$0	$384,608	$397,312
19	Net Deferred Tax Reserve	Line 16 + Line 17 + Line 18		$16,085,088	$15,402,052	$15,078,257	$14,359,159
	ISR Rate Base Calculation:						
20	Cumulative Incremental Capital Included in ISR Rate Base	Line 8		$68,819,926	$68,819,926	$68,819,926	$68,819,926
21	Accumulated Depreciation	- Line 13		($1,458,427)	($4,375,280)	($7,292,133)	($10,208,986)
22	Deferred Tax Reserve	- Line 19		($16,085,088)	($15,402,052)	($15,078,257)	($14,359,159)
23	Year End Rate Base	Sum of Lines 20 through 22		$51,276,411	$49,042,594	$46,449,536	$44,251,781
	Revenue Requirement Calculation:						
24	Average ISR Rate Base	Column (a) = Current Year Line 23 ÷ 2; Column (b) through (d) = (Prior Year Line 23 + Current Year Line 23 ÷ 2)		$25,638,206	$50,159,502	$47,746,065	$45,350,658
25	Pre-Tax ROR		3/	10.05%	10.05%	10.05%	10.05%
26	Return and Taxes	Line 24 * 25		$2,576,640	$5,041,030	$4,798,479	$4,557,741
27	Book Depreciation	Line 12		$1,458,427	$2,916,853	$2,916,853	$2,916,853
28	Property Taxes		4/	$0	$0	$0	$0
29	**Annual Revenue Requirement**	**Sum of Lines 26 through 28**		**$4,035,066**	**$7,957,883**	**$7,715,333**	**$7,474,594**
30	**As Approved in RIPUC Docket No. 4540**			**$4,218,540**	**$8,324,058**	**$8,079,833**	**$7,837,432**
30a	**Add Back: Revenue Requirement Impact of NOL True-Up**			**$149,557**	**$299,114**	**$299,114**	**$299,114**
31	**Work Order Write Off Adjustment**			**($33,917)**	**($67,061)**	**($65,386)**	**($63,724)**

1/ Actual FY 2016 retirements per Company's books
2/ Actual FY 2016 Cost of Removal per Company's books
3/ 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%	5.70%	2.85%		2.85%
Short Term Debt	0.76%	0.80%	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%		7.54%	2.51%	10.05%

4/ Property taxes calculated on Pages 17 through 19 of 25 for all vintage years commencing with FY14 and reflected in total on Page 1 at Line 10.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of Tax Depreciation and Repairs Deduction on FY 2016 Capital Investments

Line No.				Fiscal Year 2016 (a)	Fiscal Year 2017 (b)	Fiscal Year 2018 (c)	Fiscal Year 2019 (d)
	Capital Repairs Deduction						
1	Plant Additions	Page 6 of 25, Line 1 minus Line 1a		$89,474,497			
2	Capital Repairs Deduction Rate	Per Tax Department	1/	70.11%			
3	Capital Repairs Deduction	Line 2 * Line 3		$62,730,570			
	Bonus Depreciation						
4	Plant Additions	Line 1		$89,474,497			
5	Less Capital Repairs Deduction	Line 3		$62,730,570			
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5		$26,743,927			
7	Percent of Plant Eligible for Bonus Depreciation	Per Tax Department		100.00%			
8	Plant Eligible for Bonus Depreciation	Line 6 * Line 7		$26,743,927			
9	Bonus Depreciation Rate (April 2015- December 2015)	1 * 75% * 50%		37.50%			
10	Bonus Depreciation Rate (January 2016 - March 2016)	1 * 25% * 50%		12.50%			
11	Total Bonus Depreciation Rate	Line 9 + Line 10		50.00%			
12	Bonus Depreciation	Line 8 * Line 11		$13,371,963			
	Remaining Tax Depreciation						
13	Plant Additions	Line 1		$89,474,497			
14	Less Capital Repairs Deduction	Line 3		$62,730,570			
15	Less Bonus Depreciation	Line 12		$13,371,963			
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 13 - Line 14 - Line 15		$13,371,964	$13,371,964	$13,371,964	$13,371,964
17	20 YR MACRS Tax Depreciation Rates	IRS Publication 946		3.750%	7.219%	6.677%	6.177%
18	Remaining Tax Depreciation	Line 16 * Line 17		$501,449	$965,322	$892,846	$825,986
19	FY16 tax (gain)/loss on retirements	Per Tax Department		$238,628			
20	Cost of Removal	Page 6 of 25, Line 7 minus Line 7a		$3,701,611			
21	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 19 & 20		$80,544,221	$965,322	$892,846	$825,986

1/ Agrees to the FY 2016 Gas Plan Proposal in RIPUC Docket 4540. Capital Repairs percentage is based on a three-year average of FYs 2012, 2013 and 2014 capital repairs rates.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Computation of Revenue Requirement on FY 2015 Actual Incremental Gas Capital Investment

Line No.				Fiscal Year 2015 (a)	Fiscal Year 2016 (b)	Fiscal Year 2017 (c)	Fiscal Year 2018 (d)	Fiscal Year 2019 (e)
	Depreciable Net Capital Included in ISR Rate Base							
1	Total Allowed Capital Included in ISR Rate Base in Current Year	Per RIPUC Docket No. 4474		$74,915,000	$0	$0	$0	$0
1a	Work Order Write Off Adjustment	Per Company's books		$323,217	$0	$0	$0	$0
2	Retirements		1/	$5,566,546	$0	$0	$0	$0
3	Net Depreciable Capital Included in ISR Rate Base	Column (a) = Line 1 - Line 1a - Line 2; Column (b) through (e) = Prior Year Line 3		$69,025,237	$69,025,237	$69,025,237	$69,025,237	$69,025,237
	Change in Net Capital Included in ISR Rate Base							
4	Capital Included in ISR Rate Base	Line 1 - Line 1a		$74,591,783	$0	$0	$0	$0
5	Depreciation Expense	Per Settlement Agreement Docket No. 4323, excluding General Plant		$24,356,183	$0	$0	$0	$0
6	Incremental Capital Amount	Line 4 - Line 5		$50,235,600	$50,235,600	$50,235,600	$50,235,600	$50,235,600
7	Cost of Removal		2/	$2,425,000	$2,425,000	$2,425,000	$2,425,000	$2,425,000
7a	Work Order Write Off Adjustment	Per Company's books		$253,782	$0	$0	$0	$0
8	**Net Plant Amount**	**Line 6 + Line 7 - Line 7a**		**$52,406,818**	**$52,406,818**	**$52,406,818**	**$52,406,818**	**$52,406,818**
	Deferred Tax Calculation:							
9	Composite Book Depreciation Rate	As Approved in R.I.P.U.C. Docket No. 3943 & 4323		3.38%	3.38%	3.38%	3.38%	3.38%
10	Tax Depreciation	Per Page 9 of 25, Line 22		$68,843,570	$979,151	$905,637	$837,819	$774,884
11	Cumulative Tax Depreciation	Prior Year Line 11 + Current Year Line 10		$68,843,570	$69,822,721	$70,728,358	$71,566,177	$72,341,061
12	Book Depreciation	Column (a) = Line 3 * Line 9 * 50% ; Column (b) = Line 3 * Line 9		$1,166,527	$2,333,053	$2,333,053	$2,333,053	$2,333,053
13	Cumulative Book Depreciation	Prior Year Line 13 + Current Year Line 12		$1,166,527	$3,499,580	$5,832,633	$8,165,686	$10,498,739
14	Cumulative Book / Tax Timer	Line 11 - Line 13		$67,677,043	$66,323,141	$64,895,725	$63,400,491	$61,842,322
15	Effective Tax Rate			35.00%	35.00%	35.000%	35.000%	35.000%
16	Deferred Tax Reserve	Line 14 * Line 15		$23,686,965	$23,213,099	$22,713,504	$22,190,172	$21,644,813
17	Less: FY 2015 NOL	Per Page 20 of 25, Line 12		($19,205,538)	($19,205,538)	($19,205,538)	($19,205,538)	($19,205,538)
18	Proration Adjustment	Col (d) = Page 22 of 25, Line 40; Col (e) = Page 23 of 25, Line 40		$0	$0	$0	$284,129	$296,088
19	Net Deferred Tax Reserve	Line 16 + Line 17 + Line 18		$4,481,427	$4,007,561	$3,507,966	$3,268,763	$2,735,363
	ISR Rate Base Calculation:							
20	Cumulative Incremental Capital Included in ISR Rate Base	Line 8		$52,406,818	$52,406,818	$52,406,818	$52,406,818	$52,406,818
21	Accumulated Depreciation	- Line 13		($1,166,527)	($3,499,580)	($5,832,633)	($8,165,686)	($10,498,739)
22	Deferred Tax Reserve	- Line 19		($4,481,427)	($4,007,561)	($3,507,966)	($3,268,763)	($2,735,363)
23	Year End Rate Base	Sum of Lines 20 through 22		$46,758,864	$44,899,677	$43,066,219	$40,972,369	$39,172,717
	Revenue Requirement Calculation:							
24	Average ISR Rate	Column (a) = Current Year Line 23 ÷ 2; Column (b) through (d) = (Prior Year Line 23 + Current Year Line 23 ÷ 2)		$23,379,432	$45,829,270	$43,982,948	$42,019,294	$40,072,543
25	Pre-Tax ROR		3/	10.05%	10.05%	10.05%	10.05%	10.05%
26	Return and Taxes	Line 24 * 25		$2,349,633	$4,605,842	$4,420,286	$4,222,939	$4,027,291
27	Book Depreciation	Line 12		$1,166,527	$2,333,053	$2,333,053	$2,333,053	$2,333,053
28	Property taxes		4/	$0	$0	$0	$0	$0
29	**Annual Revenue Requirement**	**Sum of Lines 26 through 28**		**$3,516,160**	**$6,938,895**	**$6,753,339**	**$6,555,992**	**$6,360,344**
30	**As Approved in RIPUC Docket No. 4540**			**$3,541,285**	**$6,988,713**	**$6,802,301**	**$6,604,037**	**$6,407,480**
31	**Work Order Write Off Adjustment**			**($25,125)**	**($49,818)**	**($48,962)**	**($48,045)**	**($47,136)**

$0

1/ Actual FY 2015 retirements per Company's books
2/ Actual FY 2015 Cost of Removal per Company's books
3/ 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%	5.70%	2.85%		2.85%
Short Term Debt	0.76%	0.80%	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%		7.54%	2.51%	10.05%

4/ Property taxes calculated on Pages 17 through 19 of 25 for all vintage years commencing with FY14 and reflected in total on Page 1 at Line 10.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of Tax Depreciation and Repairs Deduction on FY 2015 Capital Investments

Line No.				Fiscal Year 2015 (a)	Fiscal Year 2016 (b)	Fiscal Year 2017 (c)	Fiscal Year 2018 (d)	Fiscal Year 2019 (e)
	Capital Repairs Deduction							
1	Plant Additions	Per Page 8 of 25, Line 1 minus Line 1a		$74,591,783				
2	Capital Repairs Deduction Rate	Per Tax Department	1/	63.81%				
3	Capital Repairs Deduction	Line 1 * Line 2		$47,597,001				
	Bonus Depreciation							
4	Plant Additions	Line 1		$74,591,783				
5	Less Capital Repairs Deduction	Line 3		$47,597,001				
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5		$26,994,782				
7	Percent of Plant Eligible for Bonus Depreciation	Per Tax Department		99.51%				
8	Plant Eligible for Bonus Depreciation	Line 6 * Line 7		$26,862,508				
9	Bonus Depreciation Rate (April 2014 - December 2014)	1 * 75% * 50%		37.50%				
10	Bonus Depreciation Rate (January 2015 - March 2015)	1 * 25% * 50%		12.50%				
11	Total Bonus Depreciation Rate	Line 9 + Line 10		50.00%				
12	Bonus Depreciation	Line 8 * Line 11		$13,431,254				
	Remaining Tax Depreciation							
13	Plant Additions	Line 1		$74,591,783				
14	Less Capital Repairs Deduction	Line 3		$47,597,001				
15	Less Bonus Depreciation	Line 12		$13,431,254				
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 13 - Line 14 - Line 15		$13,563,528	$13,563,528	$13,563,528	$13,563,528	$13,563,528
17	20 YR MACRS Tax Depreciation Rates	Per IRS Pub. 946		3.750%	7.219%	6.677%	6.177%	5.713%
18	Remaining Tax Depreciation	Line 16 * Line 17		$508,632	$979,151	$905,637	$837,819	$774,884
19	§481(a) FY09- FY14 adjustment for tax (gain)/loss on retirements	Per Tax Department		$4,311,849				
20	FY15 tax (gain)/loss on retirements	Per Tax Department		$823,616				
21	Cost of Removal	Per Page 8 of 25, Line 7 minus Line 7a		$2,171,218				
22	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 19, 20 & 21		$68,843,570	$979,151	$905,637	$837,819	$774,884

1/ Capital Repairs percentage is based on the actual results of the FY 2015 tax return. Since growth is not included in the ISR, the percentage was derived by taking property qualifying for the repairs deduction as a percentage of the total annual plant addtions in those categories that are considered as potentially qualifying for Capital Repairs deduction.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Computation of Revenue Requirement on FY 2014 Actual Incremental Gas Capital Investment

Line No.				Fiscal Year 2014 (a)	Fiscal Year 2015 (b)	Fiscal Year 2016 (c)	Fiscal Year 2017 (d)	Fiscal Year 2018 (e)	Fiscal Year 2019 (f)
	Depreciable Net Capital Included in Rate Base								
1	Total Allowed Capital Included in Rate Base in Current Year	Page 16 of 25, Line 3, Column (c); (Includes Work Order Write Off Adjustment)		$21,712,195	$0	$0	$0	$0	$0
2	Retirements	Page 16 of 25, Line 9, Column (c)	1/	1,615,155	$0	$0	$0	$0	$0
3	Net Depreciable Capital Included in Rate Base	Column (a) = Line 1 - Line 1a - Line 2; Column (b) through (f) = Prior Year Line 3		$20,097,039	$20,097,039	$20,097,039	$20,097,039	$20,097,039	$20,097,039
	Change in Net Capital Included in Rate Base								
4	Capital Included in Rate Base	Line 1		$21,712,195	$0	$0	$0	$0	$0
5	Depreciation expense	Per Compliance filing Docket No. 4323, excluding General Plant	2/	$4,060,176	$0	$0	$0	$0	$0
6	Incremental Capital Amount	Line 4 - Line 5		$17,652,019	$17,652,019	$17,652,019	$17,652,019	$17,652,019	$17,652,019
7	Cost of Removal	Page 16 of 25, Line 6, Column (c); (Includes Work Order Write Off Adjustment)	3/	($1,315,660)	($1,315,660)	($1,315,660)	($1,315,660)	($1,315,660)	($1,315,660)
8	**Net Plant Amount**	**Line 6 + Line 7**		**$16,336,358**	**$16,336,358**	**$16,336,358**	**$16,336,358**	**$16,336,358**	**$16,336,358**
	Deferred Tax Calculation:								
9	Composite Book Depreciation Rate	As Approved in R.I.P.U.C. Docket No. 4323 and 3943		3.38%	3.38%	3.38%	3.38%	3.38%	3.38%
10	Tax Depreciation	Page 11 of 25, Line 20		$17,751,832	$198,360	$183,467	$169,728	$156,979	$145,218
11	Cumulative Tax Depreciation	Prior Year Line 11 + Current Year Line 10		$17,751,832	$17,950,192	$18,133,658	$18,303,387	$18,460,365	$18,605,583
12	Book Depreciation	Column (a) = Line 3 * Line 9 * 50% ; Columns (b)-(f) = Line 3 * Line 9		$339,640	$679,280	$679,280	$679,280	$679,280	$679,280
13	Cumulative Book Depreciation	Prior Year Line 13 + Current Year Line 12		$339,640	$1,018,920	$1,698,200	$2,377,480	$3,056,760	$3,736,040
14	Cumulative Book / Tax Timer	Line 11 - Line 13		$17,412,192	$16,931,272	$16,435,459	$15,925,907	$15,403,605	$14,869,544
15	Effective Tax Rate			35.00%	35.00%	35.000%	35.000%	35.000%	35.000%
16	Deferred Tax Reserve	Line 14 * Line 15		$6,094,267	$5,925,945	$5,752,411	$5,574,067	$5,391,262	$5,204,340
17	Less: FY 2014 Federal NOL	Lessor of Line 16 or Page 20 of 25, Line 11		($6,094,267)	($5,925,945)	($5,752,411)	($5,574,067)	($5,391,262)	($5,204,340)
18	Proration Adjustment	Col (e) = Page 22 of 25, Line 40; Col (f) = Page 23 of 25, Line 40		$0	$0	$0	$0	$99,249	$101,484
19	Net Deferred Tax Reserve	Sum of Lines 16 through Line 18		$0	$0	$0	$0	$99,249	$101,484
	Rate Base Calculation:								
20	Cumulative Incremental Capital Included in Rate Base	Line 8		$16,336,358	$16,336,358	$16,336,358	$16,336,358	$16,336,358	$16,336,358
21	Accumulated Depreciation	- Line 13		($339,640)	($1,018,920)	($1,698,200)	($2,377,480)	($3,056,760)	($3,736,040)
22	Deferred Tax Reserve	- Line 19		$0	$0	$0	$0	($99,249)	($101,484)
23	Year End Rate Base	Sum of Lines 20 through 22		$15,996,718	$15,317,439	$14,638,159	$13,958,879	$13,180,350	$12,498,835
	Revenue Requirement Calculation:								
24	Average ISR Rate Base	Column (a) = Current Year Line 23 * 32.32%; Column (b) through (f) = (Prior Year Line 23 + Current Year Line 23 ÷ 2)	4/	$5,072,586	$15,657,078	$14,977,799	$14,298,519	$13,569,614	$12,839,592
25	Pre-Tax ROR		5/	10.05%	10.05%	10.05%	10.05%	10.05%	10.05%
26	Return and Taxes	Line 24 * Line 25		$509,795	$1,573,536	$1,505,269	$1,437,001	$1,363,746	$1,290,379
27	Book Depreciation	Line 12		$339,640	$679,280	$679,280	$679,280	$679,280	$679,280
28	Property Taxes		6/	$0	$0	$0	$0	$0	$0
29	**Annual Revenue Requirement on Incremental FY14 Investment**	**Sum of Lines 26 through 28**		**$849,435**	**$2,252,816**	**$2,184,549**	**$2,116,281**	**$2,043,026**	**$1,969,659**
30	Remaining FY14 NOL attributable to embedded rate base in RIPUC Docket 4323	Per Page 20 of 25, Line 12 less Line 17		$11,929,951	$12,098,273	$12,271,808	$12,450,151	$12,632,956	$12,819,878
31	Average Rate Base	Col (a) = Current Year Line 30 * 58.33%; Col (b) through (f) = (Prior Year Line 30 + Current Year Line 30) ÷ 2	7/	$6,959,138	$12,014,112	$12,185,040	$12,360,979	$12,541,554	$12,726,417
32	Pre-Tax ROR		5/	10.05%	10.05%	10.05%	10.05%	10.05%	10.05%
33	Return and Taxes	Line 31 * Line 32		$699,393	$1,207,418	$1,224,597	$1,242,278	$1,260,426	$1,279,005
34	**Annual Revenue Requirement adjustment to base rates relate**	**Line 33**		**$699,393**	**$1,207,418**	**$1,224,597**	**$1,242,278**	**$1,260,426**	**$1,279,005**
35	**Total Annual Revenue Requirement**	**Line 29 + Line 34**		**$1,548,828**	**$3,460,235**	**$3,409,145**	**$3,358,559**	**$3,303,452**	**$3,248,664**
36	**As Approved in RIPUC Docket No. 4540**			**$1,584,245**	**$3,545,107**	**$3,492,075**	**$3,439,565**	**$3,382,354**	**$3,325,473**
37	**Work Order Write Off Adjustment**			**($35,417)**	**($84,872)**	**($82,930)**	**($81,006)**	**($78,902)**	**($76,809)**

1/ Actual Incremental Retirements
2/ Depreciation expense has been prorated for two months (February - March 2014).
3/ Actual Incremental Cost of Removal
4/ 31.71% per Page 25 of 25

5/ Weighted Average Cost of Capital as approved in R.I.P.U.C. Docket No. 4323

	Ratio	Rate	Rate	Taxes	Return
Long Term Debt	49.95%	5.70%	2.85%		2.85%
Short Term Debt	0.76%	0.80%	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%		7.54%	2.51%	10.05%

6/ Property taxes calculated on Pages 17 through 19 of 25 for all vintage years commencing with FY14 and reflected in total on Page 1 at Line 10.
7/ 58.33% per Docket No. 4474

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of Tax Depreciation and Repairs Deduction on FY 2014 Capital Investments

Line No.				Fiscal Year 2014 (a)	Fiscal Year 2015 (b)	Fiscal Year 2016 (c)	Fiscal Year 2017 (d)	Fiscal Year 2018 (e)	Fiscal Year 2019 (f)
	Capital Repairs Deduction								
1	Plant Additions	Per Page 10 of 25, Line 1		$21,712,195					
2	Capital Repairs Deduction Rate	Per Tax Department	1/	74.94%					
3	Capital Repairs Deduction	Line 1 * Line 2		$16,271,119					
	Bonus Depreciation								
4	Plant Additions	Line 1		$21,712,195					
5	Less Capital Repairs Deduction	Line 3		$16,271,119					
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5		$5,441,076					
7	Percent of Plant Eligible for Bonus Depreciation	Per Tax Department		99.00%					
8	Plant Eligible for Bonus Depreciation	Line 6 * Line 7		$5,386,665					
9	Bonus Depreciation Rate (April 2013 - December 2013)	1 * 75% * 50%		37.50%					
10	Bonus Depreciation Rate (January 2014 - March 2014)	1 * 25% * 50%		12.50%					
11	Total Bonus Depreciation Rate	Line 9 + Line 10		50.00%					
12	Bonus Depreciation	Line 8 * Line 11		$2,693,333					
	Remaining Tax Depreciation								
13	Plant Additions	Line 1		$21,712,195					
14	Less Capital Repairs Deduction	Line 3		$16,271,119					
15	Less Bonus Depreciation	Line 12		$2,693,333					
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 13 - 14 - 15		$2,747,743	$2,747,743	$2,747,743	$2,747,743	$2,747,743	$2,747,743
17	20 YR MACRS Tax Depreciation Rates	Per IRS Pub. 946		3.750%	7.219%	6.677%	6.177%	5.713%	5.285%
18	Remaining Tax Depreciation	Line 16 * Line 17		$103,040	$198,360	$183,467	$169,728	$156,979	$145,218
19	Cost of Removal	Per Page 10 of 25, Line 7		($1,315,660)					
20	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 19		$17,751,832	$198,360	$183,467	$169,728	$156,979	$145,218

1/ Capital Repairs percentage is based on the actual results of the FY 2014 tax return. Since growth is not included in the ISR, the percentage was derived by taking property qualifying for the repairs deduction as a percentage of the total annual plant addtions in those categories that are considered as potentially qualifying for Capital Repairs deduction.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Computation of Revenue Requirement on FY2013 Actual Incremental Capital Investment

Line No.				Fiscal Year 2013 (a)	Fiscal Year 2014 (b)	Fiscal Year 2015 (c)	Fiscal Year 2016 (d)	Fiscal Year 2017 (e)	Fiscal Year 2018 (f)	Fiscal Year 2019 (g)
	Depreciable Net Capital Included in Rate Base									
1	Total Allowed Capital Included in Rate Base in Current Year	Page 16 of 25, Line 3, Column (b); (Includes Work Order Write Off Adjustment)		($1,161,379)	($1,161,379)	($1,161,379)	($1,161,379)	($1,161,379)	($1,161,379)	($1,161,379)
2	Retirements	Page 16 of 25, Line 9, Column (b)	1/	3,276,842	3,276,842	3,276,842	3,276,842	3,276,842	3,276,842	3,276,842
3	Net Depreciable Capital Included in Rate Base	Column (a) = Line 1 - Line 2; Column (b) through (g) = Prior Year Line 3		($4,438,221)	($4,438,221)	($4,438,221)	($4,438,221)	($4,438,221)	($4,438,221)	($4,438,221)
	Change in Net Capital Included in Rate Base									
4	Capital Included in Rate Base	Line 1		($1,161,379)						
5	Cost of Removal	Page 16 of 25, Line 6, Column (b); (Includes Work Order Write Off Adjustment)	2/	($1,690,245)						
6	**Net Plant Amount**	**Line 4 + Line 5**		**($2,851,624)**	**($2,851,624)**	**($2,851,624)**	**($2,851,624)**	**($2,851,624)**	**($2,851,624)**	**($2,851,624)**
	Deferred Tax Calculation:									
7	Composite Book Depreciation Rate	As Approved in R.I.P.U.C. Docket No. 4323 and 3943		3.38%	3.38%	3.38%	3.38%	3.38%	3.38%	3.38%
8	Tax Depreciation	Page 13 of 25, Line 26		($2,682,652)	($12,673)	($11,722)	($10,844)	($10,029)	($9,278)	($8,581)
9	Cumulative Tax Depreciation	Col (a)= Current Yr Line 8; Col (b)-(d)= Prior Yr Line 9 + Current Yr Line 8		($2,682,652)	($2,695,325)	($2,707,047)	($2,717,891)	($2,727,921)	($2,737,199)	($2,745,780)
10	Book Depreciation	Column (a) = Line 3 * Line 7 * 50%; Column (b)-(d) = Line 3 * Line 7		($75,006)	($150,012)	($150,012)	($150,012)	($150,012)	($150,012)	($150,012)
11	Cumulative Book Depreciation	Col (a) =Current Yr Line 10; Col (b)-(d) = Prior Yr Line 9 + Current Yr Line 10		($75,006)	($225,018)	($375,030)	($525,042)	($675,053)	($825,065)	($975,077)
12	Cumulative Book / Tax Timer	Line 9 - Line 11		($2,607,646)	($2,470,308)	($2,332,018)	($2,192,850)	($2,052,867)	($1,912,133)	($1,770,703)
13	Effective Tax Rate			35.00%	35.00%	35.000%	35.000%	35.000%	35.000%	35.000%
14	Deferred Tax Reserve	Line 12 * Line 13		($912,676)	($864,608)	($816,206)	($767,497)	($718,504)	($669,247)	($619,746)
15	Less: FY 2013 Federal NOL	Per Page 20 of 25, Line 12		$0	$0	$0	$0	$0	$0	$0
16	Proration Adjustment	Col (f) = Page 22 of 25, Line 40; Col (g) = Page 23 of 25, Line 40		$0	$0	$0	$0	$0	($26,743)	($26,875)
17	Net Deferred Tax Reserve	Sum of Lines 14 through 16		($912,676)	($864,608)	($816,206)	($767,497)	($718,504)	($695,989)	($646,621)
	Rate Base Calculation:									
18	Cumulative Incremental Capital Included in Rate Base	Line 6		($2,851,624)	($2,851,624)	($2,851,624)	($2,851,624)	($2,851,624)	($2,851,624)	($2,851,624)
19	Accumulated Depreciation	- Line 11		$75,006	$225,018	$375,030	$525,042	$675,053	$825,065	$975,077
20	Deferred Tax Reserve	- Line 17		$912,676	$864,608	$816,206	$767,497	$718,504	$695,989	$646,621
21	Year End Rate Base	Sum of Lines 18 through 20		($1,863,942)	($1,761,998)	($1,660,388)	($1,559,085)	($1,458,067)	($1,330,569)	($1,229,926)
	Revenue Requirement Calculation:									
22	Average ISR Rate Base	Col (a) = Current Yr Line 21 ÷ 2; Col (b) through (g) = (Prior Yr Line 21 + Current Yr Line 21) ÷ 2		($931,971)	($1,812,970)	($1,711,193)	($1,609,736)	($1,508,576)	($1,394,318)	($1,280,247)
23	Pre-Tax ROR		3/	11.18%	10.05%	10.05%	10.05%	10.05%	10.05%	10.05%
24	Return and Taxes	Line 22 * Line 23		($104,194)	($182,203)	($171,975)	($161,779)	($151,612)	($140,129)	($128,665)
25	Book Depreciation	Line 10		($75,006)	($150,012)	($150,012)	($150,012)	($150,012)	($150,012)	($150,012)
26	Property Taxes	$0 in Year 1, then Prior Year (Line 6 - Line 11) * Property Tax Rate	4/	$0	($93,017)	($79,586)	($76,859)	($70,495)	($67,548)	($62,892)
27	**Annual Revenue Requirement on Incremental FY 2013 Investment**	**Sum of Lines 24 through 26**		**($179,200)**	**($425,232)**	**($401,573)**	**($388,649)**	**($372,119)**	**($357,689)**	**($341,569)**
28	Remaining FY13 NOL attributable to embedded rate base in RIPUC Docket 4323	Per Page 20 of 25, Line 12 less Line 15		$6,136,520	$6,136,520	$6,136,520	$6,136,520	$6,136,520	$6,136,520	$6,136,520
29	Average Rate Base	Col (a) = Line 28 * 50%; Col (b) through (g) = (Prior Year Line 28 + Current Year Line 28) ÷ 2		$3,068,260	$6,136,520	$6,136,520	$6,136,520	$6,136,520	$6,136,520	$6,136,520
30	Pre-Tax ROR		5/	11.18%	10.05%	10.05%	10.05%	10.05%	10.05%	10.05%
31	Return and Taxes	Line 29 * Line 30		$343,031	$616,720	$616,720	$616,720	$616,720	$616,720	$616,720
32	**Annual Revenue Requirement adjustment to base rates related to NOL**	**Line 31**		**$343,031**	**$616,720**	**$616,720**	**$616,720**	**$616,720**	**$616,720**	**$616,720**
33	**Total Annual Revenue Requirement**	**Line 27 + Line 32**		**$163,831**	**$191,488**	**$215,147**	**$228,071**	**$244,601**	**$259,032**	**$275,151**
34	**As Approved in RIPUC Docket No. 4540**			**$190,784**	**$258,470**	**$279,022**	**$290,997**	**$305,675**	**$319,048**	**$333,675**
35	**Work Order Write Off Adjustment**			**($26,953)**	**($66,982)**	**($63,875)**	**($62,926)**	**($61,074)**	**($60,016)**	**($58,524)**

1/ Actual Incremental Retirements
2/ Actual Incremental Cost of Removal
3/ Weighted Average Cost of Capital as approved in R.I.P.U.C. Docket No. 4323

	Ratio	Rate	Rate	Taxes	Return
Long Term Debt	49.95%	5.70%	2.85%		2.85%
Short Term Debt	0.76%	0.80%	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%		7.54%	2.51%	10.05%
					9.00%

4/ FY 2018 effective property tax rate of 3.1% per Page 18 of 25 at Line 72(h).
5/ Col (a) - Per Page 21 of 25, Line 1; Cols (b)-(d) - Per Note 3 above

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of Tax Depreciation and Repairs Deduction on FY 2013 Capital Investments

Line No.				Fiscal Year 2013 (a)	Fiscal Year 2014 (b)	Fiscal Year 2015 (c)	Fiscal Year 2016 (d)	Fiscal Year 2017 (e)	Fiscal Year 2018 (f)	Fiscal Year 2019 (g)
	Capital Repairs Deduction									
1	Plant Additions	Per Page 12 of 25, Line 1		($1,161,379)						
2	Capital Repairs Deduction Rate	Per Tax Department	1/	67.95%						
3	Capital Repairs Deduction	Line 1 * Line 2		($789,157)						
	Bonus Depreciation									
4	Plant Additions	Line 1		($1,161,379)						
5	Less Capital Repairs Deduction	Line 3		($789,157)						
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5		($372,222)						
7	Percent of Plant Eligible for 100% Bonus Depreciation	Per Tax Department	2/	5.67%						
8	Plant Eligible for 100% Bonus Depreciation	Line 6 * Line 7		($21,113)						
9	Bonus Depreciation Rate (April 2012 - December 2012)	1 * 75% * 100%		75.00%						
10	Bonus Depreciation Rate (January 2013 - March 2013)	1 * 25% * 100%		25.00%						
11	Total Bonus Depreciation Rate	Line 9 + Line 10		100.00%						
12	100% Bonus Depreciation	Line 8 * Line 11		($21,113)						
13	Plant Additions Net of Capital Repairs Deduction and 100% Bonus Depreciation	Line 6 - Line 12		($351,109)						
14	Plant Eligible for 50% Bonus Depreciation	Per Tax Department		100.00%						
15	Bonus Depreciation Rate (April 2012 - December 2012)	1 * 75% * 50%		37.50%						
16	Bonus Depreciation Rate (January 2013 - March 2013)	1 * 25% * 50%		12.50%						
17	Total Bonus Depreciation Rate	Line 9 + Line 10		50.00%						
18	50% Bonus Depreciation	Line 13 * Line 17		($175,554)						
	Remaining Tax Depreciation									
19	Plant Additions	Line 1		($1,161,379)						
20	Less Capital Repairs Deduction	Line 3		($789,157)						
21	Less Bonus Depreciation	Line 12 + Line 18		($196,667)						
22	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 19 - 20 - 21		($175,554)	($175,554)	($175,554)	($175,554)	($175,554)	($175,554)	($175,554)
23	20 YR MACRS Tax Depreciation Rates	Per IRS Pub. 946		3.750%	7.219%	6.677%	6.177%	5.713%	5.285%	4.888%
24	Remaining Tax Depreciation	Line 22 * Line 23		($6,583)	($12,673)	($11,722)	($10,844)	($10,029)	($9,278)	($8,581)
25	Cost of Removal	Per Page 12 of 25, Line 5		($1,690,245)						
26	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 24, & 25		($2,682,652)	($12,673)	($11,722)	($10,844)	($10,029)	($9,278)	($8,581)

1/ Capital Repairs percentage is based on the actual results of the FY 2013 tax return.
2/ Long period production assets qualifying for 100% bonus depreciation in FY 2013 totaled $3.2 million, taken over total FY13 ISR-eligible capital investment of $56.4 million equals 5.67%.

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Computation of Revenue Requirement on FY 2012 Actual Incremental Gas Capital Investment

Line No.				Fiscal Year 2012 (a)	Fiscal Year 2013 (b)	Fiscal Year 2014 (c)	Fiscal Year 2015 (d)	Fiscal Year 2016 (e)	Fiscal Year 2017 (f)	Fiscal Year 2018 (g)	Fiscal Year 2019 (h)
	Depreciable Net Capital Included in Rate Base										
1	Total Allowed Capital Included in Rate Base in Current Year	Page 16 of 25, Line 3, Column (a)		$6,816,729	$0	$0	$0	$0	$0	$0	$0
2	Retirements	Page 16 of 25, Line 9, Column (a)	1/	2,292,446	$0	$0	$0	$0	$0	$0	$0
3	Net Depreciable Capital Included in Rate Base	Column (a) = Line 1 - Line 1a - Line 2; Column (b) through (h) = Prior Year Line 3		$4,524,283	$4,524,283	$4,524,283	$4,524,283	$4,524,283	$4,524,283	$4,524,283	$4,524,283
	Change in Net Capital Included in Rate Base										
4	Capital Included in Rate Base	Line 1		$6,816,729	$6,816,729	$6,816,729	$6,816,729	$6,816,729	$6,816,729	$6,816,729	$6,816,729
5	Cost of Removal	Page 16 of 25, Line 6, Column (a)	2/	($3,171,476)	($3,171,476)	($3,171,476)	($3,171,476)	($3,171,476)	($3,171,476)	($3,171,476)	($3,171,476)
6	**Net Plant Amount**	**Line 4 + Line 5**		**$3,645,253**	**$3,645,253**	**$3,645,253**	**$3,645,253**	**$3,645,253**	**$3,645,253**	**$3,645,253**	**$3,645,253**
	Deferred Tax Calculation:										
7	Composite Book Depreciation Rate	As Approved in R.I.P.U.C. Docket No. 3943		3.38%	3.38%	3.38%	3.38%	3.38%	3.38%	3.38%	3.38%
8	Tax Depreciation	Page 15 of 25, Line 20		$3,097,659	$41,071	$37,987	$35,143	$32,503	$30,068	$27,809	$25,727
9	Cumulative Tax Depreciation	Prior Year Line 9 + Current Year Line 8		$3,097,659	$3,138,730	$3,176,717	$3,211,860	$3,244,363	$3,274,431	$3,302,240	$3,327,967
10	Book Depreciation	Column (a) = Line 3 * Line 7 * 50%; Columns (b)-(e) = Line 3 * Line 7		$76,460	$152,921	$152,921	$152,921	$152,921	$152,921	$152,921	$152,921
11	Cumulative Book Depreciation	Prior Year Line 11 + Current Year Line 10		$76,460	$229,381	$382,302	$535,223	$688,143	$841,064	$993,985	$1,146,906
12	Cumulative Book / Tax Timer	Line 9 - Line 11		$3,021,199	$2,909,349	$2,794,415	$2,676,637	$2,556,220	$2,433,367	$2,308,255	$2,181,061
13	Effective Tax Rate			35.00%	35.00%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%
14	Deferred Tax Reserve	Line 12 * Line 13		$1,057,420	$1,018,272	$978,045	$936,823	$894,677	$851,678	$807,889	$763,371
15	Less: FY 2012 Federal NOL	Lessor of Line 14 or Page 20 of 25, Line 11		($1,057,420)	($1,018,272)	($978,045)	($936,823)	($894,677)	($851,678)	($807,889)	($763,371)
16	Proration Adjustment	Col (g) = Page 22 of 25, Line 40; Col (h) = Page 23 of 25, Line 40								$23,774	$24,170
17	Net Deferred Tax Reserve	Sum of Lines 14 through 16		$0	$0	$0	$0	$0	$0	$23,774	$24,170
	Rate Base Calculation:										
18	Cumulative Incremental Capital Included in Rate Base	Line 6		$3,645,253	$3,645,253	$3,645,253	$3,645,253	$3,645,253	$3,645,253	$3,645,253	$3,645,253
19	Accumulated Depreciation	- Line 11		($76,460)	($229,381)	($382,302)	($535,223)	($688,143)	($841,064)	($993,985)	($1,146,906)
20	Deferred Tax Reserve	- Line 17		$0	$0	$0	$0	$0	$0	($23,774)	($24,170)
21	Year End Rate Base	Sum of Lines 18 through 20		$3,568,792	$3,415,872	$3,262,951	$3,110,030	$2,957,109	$2,804,188	$2,627,494	$2,474,177
	Revenue Requirement Calculation:										
22	Average ISR Rate Base	Column (a) = Current Yr Line 21 ÷ 2; Columns (b)-(e) = (Prior Yr Line 21 + Current Yr Line 21) ÷ 2		$1,784,396	$3,492,332	$3,339,411	$3,186,490	$3,033,570	$2,880,649	$2,715,841	$2,550,835
23	Pre-Tax ROR		3/	11.41%	11.18%	10.05%	10.05%	10.05%	10.05%	10.05%	10.05%
24	Return and Taxes	Line 22 * Line 23		$203,600	$390,443	$335,611	$320,242	$304,874	$289,505	$272,942	$256,359
25	Book Depreciation	Line 10		$76,460	$152,921	$152,921	$152,921	$152,921	$152,921	$152,921	$152,921
26	Property Taxes	$0 in Year 1, then Prior Year (Line 6 - Line 11) * Property Tax Rate	4/	$0	$48,144	$114,432	$98,867	$96,517	$89,600	$87,026	$82,280
27	**Annual Revenue Requirement**	**Sum of Lines 24 through 26**		**$280,060**	**$591,507**	**$602,963**	**$572,030**	**$554,312**	**$532,026**	**$512,888**	**$491,559**
28	Remaining FY12 NOL attributable to embedded rate base in RIPUC Docket 4323	Per Page 20 of 25, Line 12 less Line 15		$5,210,642	$5,249,789	$5,290,016	$5,331,238	$5,373,385	$5,416,383	$5,460,172	$5,504,690
29	Average Rate Base	Col (a) = Line 28 * 50%; Col (b) through (g) = (Prior Year Line 28 + Current Year Line 28) ÷ 2		$2,605,321	$5,230,216	$5,269,903	$5,310,627	$5,352,311	$5,394,884	$5,438,278	$5,482,431
30	Pre-Tax ROR		5/	11.41%	11.18%	10.05%	10.05%	10.05%	10.05%	10.05%	10.05%
31	Return and Taxes	Line 29 * Line 30		$297,267	$584,738	$529,625	$533,718	$537,907	$542,186	$546,547	$550,984
32	**Annual Revenue Requirement adjustment to base rates related to NOL**	**Line 31**		**$297,267**	**$584,738**	**$529,625**	**$533,718**	**$537,907**	**$542,186**	**$546,547**	**$550,984**
33	**Total Annual Revenue Requirement**	**Line 27 + Line 32**		**$577,327**	**$1,176,246**	**$1,132,588**	**$1,105,748**	**$1,092,219**	**$1,074,212**	**$1,059,435**	**$1,042,544**
34	**As Approved in RIPUC Docket No. 4540**			**$577,327**	**$1,176,246**	**$1,132,588**	**$1,105,748**	**$1,092,079**	**$1,074,212**	**$1,059,309**	**$1,042,425**
35	**Work Order Write Off Adjustment**			**$0**	**($0)**	**$0**	**$0**	**$140**	**$0**	**$126**	**$119**

1/ Actual Incremental Retirements

2/ Actual Incremental Cost of Capital

3/ Weighted Average Cost of Capital as approved in R.I.P.U.C. Docket No. 4323

	Ratio	Rate	Rate	Taxes	Return
Long Term Debt	49.95%	5.70%	2.85%		2.85%
Short Term Debt	0.76%	0.80%	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%		7.54%	2.51%	10.05%

4/ FY 2018 effective property tax rate of 3.1% per Page 18 of 25 at Line 72(h).

5/ Cols (a) & (b) - Per Page 21 of 25, Line 1; Cols (c) & (d) - Per Note 3 above

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of Tax Depreciation and Repairs Deduction on FY 2012 Capital Investments

Line No.				Fiscal Year 2012 (a)	Fiscal Year 2013 (b)	Fiscal Year 2014 (c)	Fiscal Year 2015 (d)	Fiscal Year 2016 (e)	Fiscal Year 2017 (f)	Fiscal Year 2018 (g)	Fiscal Year 2019 (h)
	Capital Repairs Deduction										
1	Plant Additions	Per Page 14 of 25, Line 1		$6,816,729							
2	Capital Repairs Deduction Rate	Per Tax Department	1/	67.43%							
3	Capital Repairs Deduction	Line 1 * Line 2		$4,596,520							
	Bonus Depreciation										
4	Plant Additions	Line 1		$6,816,729							
5	Less Capital Repairs Deduction	Line 3		$4,596,520							
6	Plant Additions Net of Capital Repairs Deduction	Line 4 - Line 5		$2,220,209							
7	Percent of Plant Eligible for Bonus Depreciation	Per Tax Department	2/	85.00%							
8	Plant Eligible for Bonus Depreciation	Line 6 * Line 7		$1,887,177							
9	Bonus Depreciation Rate (April 2011 - December 2011)	1 * 75% * 100%		75.00%							
10	Bonus Depreciation Rate (January 2012 - March 2012)	1 * 25% * 50%		12.50%							
11	Total Bonus Depreciation Rate	Line 9 + Line 10		87.50%							
12	Bonus Depreciation	Line 8 * Line 11		$1,651,280							
	Remaining Tax Depreciation										
13	Plant Additions	Line 1		$6,816,729							
14	Less Capital Repairs Deduction	Line 3		$4,596,520							
15	Less Bonus Depreciation	Line 12		$1,651,280							
16	Remaining Plant Additions Subject to 20 YR MACRS Tax Depreciation	Line 13 - 14 - 15		$568,929	$568,929	$568,929	$568,929	$568,929	$568,929	$568,929	$568,929
17	20 YR MACRS Tax Depreciation Rates	Per IRS Pub. 946		3.750%	7.219%	6.677%	6.177%	5.713%	5.285%	4.888%	4.522%
18	Remaining Tax Depreciation	Line 16 * Line 17		$21,335	$41,071	$37,987	$35,143	$32,503	$30,068	$27,809	$25,727
19	Cost of Removal	Per Page 14 of 25, Line 5		($3,171,476)							
20	Total Tax Depreciation and Repairs Deduction	Sum of Lines 3, 12, 18, 19		$3,097,659	$41,071	$37,987	$35,143	$32,503	$30,068	$27,809	$25,727

1/ Capital Repairs percentage is based on the actual results of the FY 2012 tax return. Since growth is not included in the ISR, the percentage was derived by taking property qualifying for the repairs deduction as a percentage of the total annual plant additions in those categories that are considered as potentially qualifying for Capital Repairs deduction.

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 2018 Gas ISR Plan Revenue Requirement
FY 2012 - FY 2014 Incremental Capital Investment Summary

Line No.				Actual Fiscal Year 2012 (a)	Actual Fiscal Year 2013 (b)	Actual Fiscal Year 2014 (c)
	Capital Investment					
1	ISR-eligible Capital Investment	Col (a) Docket No. 4219 FY 2012 ISR Reconciliation Filing less audit adjustment of $203,902; Col (b) Docket No. 4306 FY 2013 ISR Reconciliation Filing less audit adjustment of $44,855; Col (c) Docket No. 4380 FY 2014 ISR Reconciliation Filing less audit adjustment of $266,685	$	54,477,445	$56,416,101	$70,137,361
1a	Work Order Write Off Adjustment	Per Company's books		$0	$393,288	$771,673
2	ISR-eligible Capital Additions included in Rate Base per R.I.P.U.C. Docket No. 4323	Docket No. 4323 Schedule MDL-3-Gas Page 51, Line Notes 1(a), 2(b) and 3(e)		$47,660,716	$57,184,191	$47,653,493
3	Incremental ISR Capital Investment	Line 1 - Line 1a - Line 2		$6,816,729	($1,161,379)	$21,712,195
	Cost of Removal					
4	ISR-eligible Cost of Removal	Col (a) Docket No. 4219 FY 2012 ISR Reconciliation Filing; Col (b) Docket No. 4306 FY 2013 ISR Reconciliation Filing; Col (c) Actual FY 2014 ISR Gas Cost of Removal per Company's Books		$2,583,612	$3,152,565	$2,707,824
4a	Work Order Write Off Adjustment	Per Company's books		$0	$141,414	105,654.38
5	ISR-eligible Cost of Removal in Rate Base per R.I.P.U.C. Docket No. 4323	Docket No. 4323, Workpaper MDL-19-GAS, Page 3		$5,755,088	$4,701,396	$3,917,830
6	Incremental Cost of Removal	Line 4 - Line 4a - Line 5		($3,171,476)	($1,690,245)	($1,315,660)
	Retirements					
7	ISR-eligible Retirements	Col (a) Docket No. 4219 FY 2012 ISR Reconciliation filing; Col (b) Docket No. 4306 FY 2013 ISR Reconciliation filing; Col (c) Actual FY 2014 ISR Gas Retirements		$5,366,562	5,775,791	$5,274,944
8	ISR-eligible Retirements per R.I.P.U.C. Docket No. 4323	Col (a) Docket No. 4219 Supplemental Testimony 2-17-2011; Col (b) Docket No. 4306 FY 2013 ISR Proposal Filing; Col (c)= Line 2(c) * 7.68% Retirement rate per Docket No. 4323 (Workpaper MDL-19-GAS p 4)		$3,074,116	$2,498,949	$3,659,788
9	Incremental Retirements	Line 7 - Line 8		$2,292,446	$3,276,842	$1,615,155

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Forecasted FY 2018 Property Tax Recovery Adjustment
($000s)

Line	Effective Tax Rate Calculation	(a) RY End	(b) ISR Additions	(c) Non-ISR Add's	(d) Total Add's	(e) Bk Depr	(f) Retirements	(g) COR	(h) End of FY14
									As filed
1	Plant In Service	$805,721	$11,561	$994	$12,555		($879)		$817,396
2									
3	Accumulated Depr	$347,664				$4,690	($879)	($434)	$351,041
4									
5	Net Plant	$458,057							$466,355
6									
7	Property Tax Expense	$13,995							$15,624
8									
9	Effective Prop tax Rate	3.06%							3.35%
10									

11		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
12		End of FY14	ISR Additions	Non-ISR Add's	Total Add's	Bk Depr	Retirements	COR	End of FY15
13									
14	Plant In Service	$817,569	$74,592	$21,927	$96,519		($7,969)		$906,119
15									
16	Accumulated Depr	$351,041				$30,021	($7,969)	($2,425)	$370,668
17									
18	Net Plant	$466,528							$535,451
19									
20	Property Tax Expense	$15,624							$16,221
21									
22	Effective Prop tax Rate	3.35%							3.03%
23									

24		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
25		End of FY15	ISR Additions	Non-ISR Add's	Total Add's	Bk Depr	Retirements	COR	End of FY16
26									
27	Plant In Service	$906,119	$89,474	$27,135	$116,610		($3,178)		$1,019,550
28									
29	Accumulated Depr	$370,668				$33,435	($3,178)	($3,796)	$397,128
30									
31	Net Plant	$535,451							$622,423
32									
33	Property Tax Expense	$16,221							$19,316
34									
35	Effective Prop tax Rate	3.03%							3.10%
36									

37												
38	**Property Tax Recovery Calculation**	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
39		Cumulative Incremental ISR Property Tax for FY14				Cumulative Incremental ISR Property Tax for FY15				Cumulative Incremental ISR Property Tax for FY16		
40												
41	ISR Additions		$11,561				$74,592				$89,474	
42	Book Depreciation: base allowance on ISR eligible plant		($4,060)				($24,356)				($24,356)	
43	Book Depreciation: current year ISR additions		($631)				($1,167)				($1,458)	
44	COR		$434				$2,425				$3,796	
45												
46	Net Plant Additions		$7,303				$51,494				$67,456	
47												
48	Rate Year Effective Tax Rate		3.06%				3.06%				3.06%	
49	Property Tax Recovery on 2 mos FY14 vintage investment			$223				$230				$219
50	Property Tax Recovery on FY15 vintage investment							$1,573				$1,504
51	Property Tax Recovery on FY16 vintage investment											$2,061
52												
53	ISR Year Effective Tax Rate	3.35%				3.03%				3.10%		
54	RY Effective Tax Rate & differential	3.06%	0.29%			3.06%	-0.03%			3.06%	0.05%	
55	RY Effective Tax Rate differential for 2 months FY 2014		0.05%									
56	RY Net Plant times Tax Rate differential	$458,057	* 0.05%	$225		$458,057	* -0.03%	($116)		$458,057	* 0.05%	$220
57	2 mos FY14 Net Adds times ISR Year Effective Tax rate	$7,303	* 0.29%	$22		$7,543	* -0.03%	($2)		$7,182	* 0.05%	$3
58	FY15 Net Adds times ISR Year Effective Tax rate					$51,494	* -0.03%	($13)		$49,242	* 0.05%	$24
59	FY16 Net Adds times ISR Year Effective Tax rate									$67,456	* 0.05%	$32
60	Total Property Tax related to rate differential			$247				($131)				$280
61												
62	Total ISR Property Tax Recovery			$470				$1,673				$4,065
62a	**As Approved in RIPUC Docket No. 4540**			$475				$1,687				$4,071
62b	**Work Order Write Off Adjustment**			($5)				($14)				($6)

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Forecasted FY 2018 Property Tax Recovery Adjustment (continued)
($000s)

		(a) End of FY16	(b) ISR Additions	(c) Non-ISR Add's	(d) Total Add's	(e) Bk Depr	(f) Retirements	(g) COR	(h) End of FY17
63	Plant In Service	$1,019,550	$82,515	$29,226	$111,741		($6,131)		$1,125,160
64	Accumulated Depr	$397,128				$37,136	($6,131)	($2,961)	$425,172
65	Net Plant	$622,423							$699,988
66	Property Tax Expense	$19,316							$21,210
67	Effective Prop tax Rate	3.10%							3.03%

		(a) End of FY17	(b) ISR Additions	(c) Non-ISR Add's	(d) Total Add's	(e) Bk Depr	(f) Retirements	(g) COR	(h) End of FY18
68	Plant In Service	$1,125,160	$93,177	$25,518	$118,695		($3,289)		$1,240,566
69	Accumulated Depr	$425,172				$40,872	($3,289)	($8,008)	$454,747
70	Net Plant	$699,988							$785,820
71	Property Tax Expense	$21,210							$24,387
72	Effective Prop tax Rate	3.03%							3.10%

	Property Tax Recovery Calculation	(a)	(b)	(c)	(d)	(e)	(f)	(g)
		Cumulative Incremental ISR Property Tax for FY17				**Cumulative Incremental ISR Property Tax for FY18**		
73	ISR Additions		$82,515				$93,177	
74	Book Depreciation: base allowance on ISR eligible plant		($24,356)				($24,356)	
75	Book Depreciation: current year ISR additions		($1,291)				($1,519)	
76	COR		$2,961				$8,008	
77								
78	Net Plant Additions		$59,829				$75,310	
79								
80	Rate Year Effective Tax Rate		3.06%				3.06%	
81	Property Tax Recovery on 2 mos FY14 vintage investment			$207				$195
82	Property Tax Recovery on FY15 vintage investment			$1,413				$1,322
83	Property Tax Recovery on FY16 investment			$1,944				$1,827
84	Property Tax Recovery on FY17 investment			$1,828				$1,719
85	Property Tax Recovery on FY18 investment							$2,301
86	ISR Year Effective Tax Rate	3.03%				3.10%		
87	RY Effective Tax Rate & differential	3.06%	-0.03%			3.06%	0.05%	
88	RY Net Plant times Tax Rate differential	$458,057	* -0.03%	($116)		$458,057	* 0.05%	$220
89	2 mos FY14 Net Adds times ISR Year Effective Tax rate	$6,788	* -0.03%	($2)		$6,393	* 0.05%	$3
90	FY15 Net Adds times ISR Year Effective Tax rate	$46,249	* -0.03%	($12)		$43,256	* 0.05%	$21
91	FY16 Net Adds times ISR Year Effective Tax rate	$63,622	* -0.03%	($16)		$59,788	* 0.05%	$29
92	FY17 Net Adds times ISR Year Effective Tax rate	$59,829	* -0.03%	($15)		$56,259	* 0.05%	$27
93	FY18 Net Adds times ISR Year Effective Tax rate					$75,310	* 0.05%	$36
94	Total Property Tax related to rate differential			($161)				$336
95								
96	Total ISR Property Tax Recovery			$5,232				$7,700

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Forecasted FY 2018 Property Tax Recovery Adjustment (continued)
($000s)

Line	Notes
1(a) - 9(a)	Per Rate Year cost of service per Compliance filing Attachment 6 at Docket No. 4323.
1(b) - 9(h)	Per Docket 4380 FY 2014 Gas ISR Plan Reconciliation filing at Page 10 of 13
14(a)-22(h)	Per Docket 4474 FY 2015 Gas ISR Plan Reconciliation filing at Page 12 of 18
27(a)-35(h)	Per Docket 4540 FY 2016 Gas ISR Plan Reconciliation filing at Page 14 of 19
41(a) - 62(c)	Per Docket 4380 FY 2014 Gas ISR Plan Reconciliation filing at Page 10 of 13
41(e)-62(g)	Per Docket 4474 FY 2015 Gas ISR Plan Reconciliation filing at Page 12 of 17
41(i)-62(k)	Per Docket 4540 FY 2016 Gas ISR Plan Reconciliation filing at Page 14 of 19
63(a) - 67(h)	Per Docket 4590 FY 2017 Gas ISR Plan Proposal Compliance filing at Page 16 of 20
68(a)	Per Line 63(h)
68(b)	Per Page 2 of 25, Line 1
68(c)	FY 2018 forecasted Growth investment of $24,218k and General Plant of $1,300k.
68(d)	Line 68(b) + Line 68(c)
68(f)	Per Page 2 of 25, Line 2
68(h)	Line 68(a) + Line 68(d) +Line 68(f)
69(a)	Per Line 64(h)
69(e)	Rate Year depn allowance of $28,130k + (Line 1(d)+Line 1(f)* composite depn rate of 3.38%) + (Line 14(d)+Line 14(f)*3.38%) +(Line 27(d)+Line 27(f)* 3.38%)+(Line 63(d)+Line 63(f)*3.38%) +(Line 68(d)+Line 68(f)*3.38%*50%)
69(f)	Line 68(f)
69(g)	Per Page 2 of 25, Line 7
69(h)	Line 69(a) + Line 69(e) + Line 69(f) + Line 69(g)
71(a)	Line 66(h)
71(h)	Line 70(h) * Line 72(h)
72(a)	Line 67(h)
72(h)	Line 35(h); effective tax rate per FY 2016 Gas ISR reconciliation filing

Line	Notes
73(a) - 96(c)	Per Docket 4590 FY 2017 Gas ISR Plan Proposal Compliance filing at Page 16 of 20
73(f)	Line 68(b)
74(f)	Per Page 2 of 25, Line 5
75(f)	Per Page 2 of 25, Line 12
76(f)	Per Line 69(g)
78(f)	Sum of Lines 73 through 76
80(f)	Line 9(a)
81(g)	Line 80(f) * Line 89(e)
82(g)	Line 80(f) * Line 90(e)
83(g)	Line 80(f) * Line 91(e)
84(g)	Line 80(f) * Line 92(e)
85	Line 78 * Line 80
86(e)	Line 72(h)
87(e)	Line 9(a)
87(f)	Line 86(e) - Line 87(e)
88(e)	Line 5(a)
89(e)	Line 89(a) - ((Line 1(d)+Line 1(f))*3.38%)
90(e)	Line 90(a) - ((Line 14(d)+Line 14(f))*3.38%)
91(e)	Line 91(a) - ((Line 27(d)+Line 27(f))*3.38%)
92(e)	Line 92(a) - ((Line 63(d)+Line 63(f))*3.38%)
93(e)	Line 78(f)
88(f)-93(f)	Line 87(f)
88(g)-93(g)	Lines 88(e) through 93(e), Col (e) * Col (f)
94(g)	Sum of Lines 88(g) through 93(g)
96(g)	Sum of Lines 81(g) through 85(g) + Line 94(g)

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Deferred Income Tax ("DIT") Provisions and Net Operating Losses ("NOL")

		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
									CY 2011	CY 2012	Jan-2013	Feb 13 - Jan 14			
1	Total Base Rate Plant DIT Provision								$ 16,572,023	$ 19,058,494	$ 1,700,343	$ 13,893,167			
		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
2	Total Base Rate Plant DIT Provision								$17,193,641	$18,309,741	$11,577,639	$0	$0	$0	$0
3	Incremental FY 12	$1,121,846	$1,080,717	$1,038,476	$936,823	$894,677	$851,678	$807,889	$1,121,846	($41,129)	($42,241)	($101,653)	($42,146)	($42,999)	($43,789)
4	Incremental FY 13	$0	($734,732)	($690,174)	($816,206)	($767,497)	($718,504)	($669,247)	$0	($734,732)	$44,558	($126,032)	$48,709	$48,994	$49,257
5	Incremental FY 14	$0	$0	$6,444,262	$5,925,945	$5,752,411	$5,574,067	$5,391,262	$0	$0	$6,444,262	($518,317)	($173,535)	($178,343)	($182,805)
6	FY 2015	$0	$0	$0	$23,686,965	$23,213,099	$22,713,504	$22,190,172	$0	$0	$0	$23,686,965	($473,866)	($499,596)	($523,332)
7	FY 2016	$0	$0	$0	$0	$27,680,028	$26,996,992	$26,288,590	$0	$0	$0	$0	$27,680,028	($683,036)	($708,402)
8	FY 2017	$0	$0	$0	$0	$0	$25,394,010	$24,801,969	$0	$0	$0	$0	$0	$25,394,010	($592,041)
9	FY 2018	$0	$0	$0	$0	$0	$0	$29,841,543	$0	$0	$0	$0	$0	$0	$29,841,543
10	TOTAL Plant DIT Provision	$ 1,121,846	$ 345,985	$ 6,792,564	$ 29,733,527	$ 56,772,717	$ 80,811,748	$ 108,652,177	$ 18,315,487	$ 17,533,880	$ 18,024,218	$ 22,940,963	$ 27,039,190	$ 24,039,031	$ 27,840,429
11	NOL								$ 6,268,061	$ 6,136,520	$ 23,775,494	$ 19,205,538	$ 11,594,940	$ 888,430	$ -
12	Lesser of NOL or DIT Provision								$ 6,268,061	$ 6,136,520	$ 18,024,218	$ 19,205,538	$ 11,594,940	$ 888,430	$ -

Line Notes:

1(h)	Per Dkt 4323 Compliance filing Attachment 6, Page 59 of 65, Line 18(e) less Line 18(a)
1(i)-1(k)	Per Dkt 4323 Compliance filing Attachment 6, Page 64 of 65, Lines 32, 38, and 44
2	**Col (h)** = Line 1(f) * 75% + Line 1(g) * 25% ; **Col (i)** = Line 1(g) * 75% + Line 1(h) + Line 1(i) * 2/12ths; **Col (j)** = Line 1(i) * 10/12ths
3(a)-7(g)	Cumulative DIT per vintage year ISR revenue requirement calculations (Page 10, Line 14; Page 8, Line 14; Page 6, Line 16; Page 4, Line 16 ; Page 2, Line 16)
3(h) -7(n)	Year over year change in cumulative DIT shown in Cols (a) through (g)
10	Sum of Lines 2 through 9
11	Per Tax dept
12	Lesser of Line 10 or Line 11

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
True-Up for FY 2012 through FY 2016 Net Operating Losses ("NOL")

		(a)	(b)	(c)	(d)	(e)	(f)	(g)
				Revenue Requirement Year				
		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
1	Return on Rate Base	11.41%	11.18%	10.05%	10.05%	10.05%	10.05%	10.05%
				Vintage Capital Investment Year				
		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
2	Lesser of NOL or DIT Provision	$ 6,268,061	$ 6,136,520	$ 18,024,218	$ 19,205,538	$ 11,594,940	$ 888,430	$ -

Revenue Requirement Increase due to NOL

				Revenue Requirement Year				
	Vintage Capital Investment Year	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
3	FY 2012	$ 357,593	$ 700,769	$ 629,940	$ 629,940	$ 629,940	$ 629,940	$ 629,940
4	FY 2013	$ -	$ 343,031	$ 616,720	$ 616,720	$ 616,720	$ 616,720	$ 616,720
5	FY 2014	$ -	$ -	$ 884,245	$ 1,811,434	$ 1,811,434	$ 1,811,434	$ 1,811,434
6	FY 2015	$ -	$ -	$ -	$ 965,078	$ 1,930,157	$ 1,930,157	$ 1,930,157
7	FY 2016	$ -	$ -	$ -	$ -	$ 582,646	$ 1,165,291	$ 1,165,291
8	FY 2017	$ -	$ -	$ -	$ -	$ -	$ 44,644	$ 89,287
9	FY 2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	TOTAL	**$ 357,593**	**$ 1,043,801**	**$ 2,130,906**	**$ 4,023,173**	**$ 5,570,897**	**$ 6,198,186**	**$ 6,242,830**

Line Notes:

1 **Col (a)** - per Docket 4219, Attachment WRR-1 at Page 2; **Col (b)** - per Docket 4306, Attachment WRR-1 at Page 2;
Col (c) through (g) - Weighted Average Cost of Capital per Settlement Agreement RIPUC Docket No. 4323

2 Per Page 20 of 25, Line 12

3 **Col (a)** = Line 2(a) * Line 1(a) * 50%; **Col (b)** = Line 2(a) * Line 1(b); **Col (c)** = Line 2(a) * Line 1(c); **Col (d)** = Line 2(a) * Line 1(d); **Col (e)** = Line 2(a) * Line 1(e); Col (f) = Line 1(f) * Line 2(c); Col (g) = Line 1(g) * 2(c)

4 **Col (a)** = Line 2(b) * Line 1(b) * 50%; **Col (b)** = Line 2(b) * Line 1(c); **Col (c)** = Line 2(b) * Line 1(d); **Col (d)** = Line 2(b) * Line 1(e); Col (f) = Line 1(f) * Line 2(b); Col (g) = Line 1(g) * Line 2(b)

5 **Col (c) =**

a) NOL applied to FY 2014 ISR DIT	$ 6,444,262	Page 20 of 25 Line 2(j)
b) FY 2014 ISR weighted average additions rate	31.71%	Page 25 of 25 Line 16
c) FY 2014 ISR weighted average NOL	$ 2,043,486	Line (a) * Line (b)
d) FY 2014 Rate of Return	10.05%	Line 1(c) above
e) FY 2014 Return on weighted average ISR NOL	$ 205,370	Line (c) * Line (d)
f) NOL applied to base rate deferred tax provision	$ 11,579,956	Page 20 of 25 Line 10(j) less Line (a) above
g) FY 2014 weighted average base rate DIT rate	58.33%	Per do not print Line 15
h) FY 2014 base rate weighted average NOL	$ 6,754,974	Line (f) * Line (g)
i) FY 2014 Rate of Return	10.05%	Line 1
j) FY 2014 Return on weighted average base rate NOL	$ 678,875	Line (h) * Line (i)
k) Total FY 2014 NOL impact on vintage FY 2014 investment	$ 884,245	Line (e) + Line (j)

5 cont. **Col (d)** = Line 2(c) * Line 1(d); **Col (e)** = Line 2(c) * Line 1(e) ; **Col (f)** = Line 1(f) * Line 2(c); **Col (g)** = Line 1(g) * 2(c)

6 **Col (d)** = Line 1(d) * Line 2(d) * 50%; **Col (e)** = Line 1(d) * Line 2(d); **Col (f)** = Line 1(f) * Line 2(d); **Col (g)** = Line 1(g) * 2(d)

7 **Col (e)** = Line 1(e) * Line 2(e) * 50%; **Col (f)** = Line 1(f) * Line 2(e); **Col (g)** = Line 1(g) * Line 2(e)

8 **Col (f)** = Line 1(f) * Line 2(f) * 50%; **Col (g)** = Line 1(g) * Line 2(f)

9 **Col (g)** = Line 1(g) * Line 2(g) * 50%

10 Sum of Lines 3 through 9

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of FY 2018 Net Deferred Tax Reserve Proration

Line No.			(a)=Sum of (b) through (h) Total	(b) Vintage Year 2018	(c) Vintage Year 2017	(d) Vintage Year 2016	(e) Vintage Year 2015	(f) Vintage Year 2014	(g) Vintage Year 2013	(h) Vintage Year 2012
	Deferred Tax Subject to Proration									
1	Book Depreciation	Col (b) = Page 2 of 25, Line 12; Col (c) = Page 4 of 25, Line 12; Col (d) = Page 6 of 25, Line 12; Col (e) = Page 8 of 25, Line 12; Col (f) = Page 10 of 25, Line 12; Col (g) = Page 12 of 25, Line 10; Col (h) = Page 14 of 25, Line 10	$10,032,984	$1,519,105	$2,581,784	$2,916,853	$2,333,053	$679,280	($150,012)	$152,921
2	Bonus Depreciation	Page 3 of 25, Line 12	($13,764,576)	($13,764,576)	$0	$0	$0	$0	$0	$0
3	Remaining MACRS Tax Depreciation	Col (b) = Page 3 of 25, Line 18; Col (c) = Page 4 of 25, Line 10; Col (d) = Page 6 of 25, Line 10; Col (e) = Page 8 of 25, Line 10; Col (f) = Page 10 of 25, Line 10; Col (g) = Page 12 of 25, Line 8; Col (h) = Page 14 of 25, Line 8	($3,366,917)	($570,505)	($890,237)	($892,846)	($837,819)	($156,979)	$9,278	($27,809)
4	FY18 tax (gain)/loss on retirements	Page 3 of 25, Line 19	($238,628)	($238,628)	$0	$0	$0	$0	$0	$0
5	Cumulative Book / Tax Timer	Sum of Lines 1 through 4	($7,337,137)	($13,054,604)	$1,691,547	$2,024,007	$1,495,234	$522,301	($140,734)	$125,112
6	Effective Tax Rate		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
7	Deferred Tax Reserve	Line 5 * Line 6	($2,567,998)	($4,569,111)	$592,041	$708,402	$523,332	$182,805	($49,257)	$43,789
	Deferred Tax Not Subject to Proration									
8	Capital Repairs Deduction	Page 3 of 25, Line 5	($64,198,946)	($64,198,946)						
9	Cost of Removal	Page 3 of 25, Line 20	($8,008,000)	($8,008,000)						
10	Book/Tax Depreciation Timing Difference at 3/31/2017		$0	$0						
11	Cumulative Book / Tax Timer	Line 8 + Line 9 + Line 10	($72,206,946)	($72,206,946)						
12	Effective Tax Rate		35.00%	35.00%						
13	Deferred Tax Reserve	Line 11 * Line 12	($25,272,431)	($25,272,431)						
14	Total Deferred Tax Reserve	Line 7 + Line 13	($27,840,429)	($29,841,543)	$592,041	$708,402	$523,332	$182,805	($49,257)	$43,789
15	Net Operating Loss	Page 2 of 25, Line 7	$0	$0						
16	Net Deferred Tax Reserve	Line 14 + Line 15	($27,840,429)	($29,841,543)	$592,041	$708,402	$523,332	$182,805	($49,257)	$43,789
	Allocation of FY 2018 Estimated Federal NOL									
17	Cumulative Book/Tax Timer Subject to Proration	Col (b) = Line 5	($13,054,604)	($13,054,604)						
18	Cumulative Book/Tax Timer Not Subject to Proration	Line 11	($72,206,946)	($72,206,946)						
19	Total Cumulative Book/Tax Timer	Line 17 + Line 18	($85,261,550)	($85,261,550)						
20	Total FY 2018 Federal NOL	(Page 2 of 25, Line 17) / 35%	$0	$0						
21	Allocated FY 2018 Federal NOL Not Subject to Proration	(Line 18 / Line 19) * Line 20	$0	$0						
22	Allocated FY 2018 Federal NOL Subject to Proration	(Line 17 / Line 19) * Line 20	$0	$0						
23	Effective Tax Rate		35.00%	35.00%						
24	Deferred Tax Benefit subject to proration	Line 22 * Line 23	$0	$0						
25	Net Deferred Tax Reserve subject to proration	Line 7 + Line 24	($2,567,998)	($4,569,111)	$592,041	$708,402	$523,332	$182,805	($49,257)	$43,789

		(i) Number of Days in Month	(j) Proration Percentage	(k)= Sum of (l) through (r)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	Proration Calculation										
26	April 2017	30	91.78%	($196,411)	($349,464)	$45,282	$54,181	$40,027	$13,982	($3,767)	$3,349
27	May 2017	31	83.29%	($178,235)	($317,126)	$41,091	$49,168	$36,323	$12,688	($3,419)	$3,039
28	June 2017	30	75.07%	($160,646)	($285,830)	$37,036	$44,316	$32,738	$11,436	($3,081)	$2,739
29	July 2017	31	66.58%	($142,471)	($253,492)	$32,846	$39,302	$29,034	$10,142	($2,733)	$2,429
30	August 2017	31	58.08%	($124,296)	($221,153)	$28,656	$34,288	$25,330	$8,848	($2,384)	$2,119
31	September 2017	30	49.86%	($106,707)	($189,858)	$24,601	$29,436	$21,746	$7,596	($2,047)	$1,820
32	October 2017	31	41.37%	($88,531)	($157,520)	$20,411	$24,422	$18,042	$6,302	($1,698)	$1,510
33	November 2017	30	33.15%	($70,942)	($126,224)	$16,355	$19,570	$14,457	$5,050	($1,361)	$1,210
34	December 2017	31	24.66%	($52,767)	($93,886)	$12,165	$14,556	$10,753	$3,756	($1,012)	$900
35	January 2018	31	16.16%	($34,592)	($61,547)	$7,975	$9,542	$7,049	$2,462	($664)	$590
36	February 2018	28	8.49%	($18,175)	($32,338)	$4,190	$5,014	$3,704	$1,294	($349)	$310
37	March 2018	31	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
38	Total	365		($1,173,774)	($2,088,439)	$270,609	$323,795	$239,203	$83,556	($22,514)	$20,015
39	Deferred Tax Without Proration	Line 25		($2,567,998)	($4,569,111)	$592,041	$708,402	$523,332	$182,805	($49,257)	$43,789
40	Proration Adjustment	Line 38 - Line 39		$1,394,224	$2,480,673	($321,433)	($384,608)	($284,129)	($99,249)	$26,743	($23,774)

Column Notes:
(j) Sum of remaining days in the year (Col (i)) divided by 365
(l) through (r) = Current Year Line 25 * Current Month Col (j)

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Calculation of FY 2019 Net Deferred Tax Reserve Proration

Line No.			(a)=Sum of (b) through (h) Total	(b) Vintage Year 2018	(c) Vintage Year 2017	(d) Vintage Year 2016	(e) Vintage Year 2015	(f) Vintage Year 2014	(g) Vintage Year 2013	(h) Vintage Year 2012
	Deferred Tax Subject to Proration									
	Book Depreciation	Col (b) = Page 2 of 25, Line 12; Col (c) = Page 4 of 25, Line 12; Col (d) = Page 6 of 25, Line 12; Col (e) = Page 8 of 25, Line 12; Col (f) = Page 10 of 25, Line 12; Col (g) = Page 12 of 25, Line 10; Col (h) = Page 14 of 25, Line 10								
1			$11,552,088	$3,038,209	$2,581,784	$2,916,853	$2,333,053	$679,280	($150,012)	$152,921
2	Bonus Depreciation		$0	$0	$0	$0	$0	$0	$0	$0
		Col (b) = Page 3 of 25, Line 18; Col (c) = Page 4 of 25, Line 10; Col (d) = Page 6 of 25, Line 10; Col (e) = Page 8 of 25, Line 10; Col (f) = Page 10 of 25, Line 10; Col (g) = Page 12 of 25, Line 8; Col (h) = Page 14 of 25, Line 8								
3	Remaining MACRS Tax Depreciation		($3,684,894)	($1,098,261)	($823,399)	($825,986)	($774,884)	($145,218)	$8,581	($25,727)
4	FY18 tax (gain)/loss on retirements		$0	$0	$0	$0	$0	$0	$0	$0
5	Cumulative Book / Tax Timer	Sum of Lines 1 through 4	$7,867,194	$1,939,948	$1,758,385	$2,090,867	$1,558,169	$534,062	($141,431)	$127,194
6	Effective Tax Rate		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
7	Deferred Tax Reserve	Line 5 * Line 6	$2,753,518	$678,982	$615,435	$731,803	$545,359	$186,922	($49,501)	$44,518
	Deferred Tax Not Subject to Proration									
8	Capital Repairs Deduction		$0	$0						
9	Cost of Removal		$0	$0						
10	Book/Tax Depreciation Timing Difference at 3/31/2017		$0	$0						
11	Cumulative Book / Tax Timer	Line 8 + Line 9 + Line 10	$0	$0						
12	Effective Tax Rate		35.00%	35.00%						
13	Deferred Tax Reserve	Line 11 * Line 12	$0	$0						
14	Total Deferred Tax Reserve	Line 7 + Line 13	$2,753,518	$678,982	$615,435	$731,803	$545,359	$186,922	($49,501)	$44,518
15	Net Operating Loss		$0	$0						
16	Net Deferred Tax Reserve	Line 14 + Line 15	$2,753,518	$678,982	$615,435	$731,803	$545,359	$186,922	($49,501)	$44,518
	Allocation of FY 2018 Estimated Federal NOL									
17	Cumulative Book/Tax Timer Subject to Proration	Col (b) = Line 5	$1,939,948	$1,939,948						
18	Cumulative Book/Tax Timer Not Subject to Proration	Line 11	$0	$0						
19	Total Cumulative Book/Tax Timer	Line 17 + Line 18	$1,939,948	$1,939,948						
20	Total FY 2018 Federal NOL		$0	$0						
21	Allocated FY 2018 Federal NOL Not Subject to Proration	(Line 18 / Line 19) * Line 20	$0	$0						
22	Allocated FY 2018 Federal NOL Subject to Proration	(Line 17 / Line 19) * Line 20	$0	$0						
23	Effective Tax Rate		35.00%	35.00%						
24	Deferred Tax Benefit subject to proration	Line 22 * Line 23	$0	$0						
25	Net Deferred Tax Reserve subject to proration	Line 7 + Line 24	$2,753,518	$678,982	$615,435	$731,803	$545,359	$186,922	($49,501)	$44,518

		(i) Number of Days in Month	(j) Proration Percentage	(k)= Sum of (l) through (r)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	Proration Calculation										
26	April 2017	30	91.78%	$210,600	$51,931	$47,071	$55,971	$41,711	$14,297	($3,786)	$3,405
27	May 2017	31	83.29%	$191,112	$47,126	$42,715	$50,792	$37,851	$12,974	($3,436)	$3,090
28	June 2017	30	75.07%	$172,252	$42,475	$38,500	$45,779	$34,116	$11,693	($3,097)	$2,785
29	July 2017	31	66.58%	$152,764	$37,670	$34,144	$40,600	$30,256	$10,370	($2,746)	$2,470
30	August 2017	31	58.08%	$133,275	$32,864	$29,788	$35,421	$26,396	$9,047	($2,396)	$2,155
31	September 2017	30	49.86%	$114,416	$28,213	$25,573	$30,408	$22,661	$7,767	($2,057)	$1,850
32	October 2017	31	41.37%	$94,927	$23,408	$21,217	$25,229	$18,801	$6,444	($1,707)	$1,535
33	November 2017	30	33.15%	$76,068	$18,757	$17,002	$20,216	$15,066	$5,164	($1,367)	$1,230
34	December 2017	31	24.66%	$56,579	$13,952	$12,646	$15,037	$11,206	$3,841	($1,017)	$915
35	January 2018	31	16.16%	$37,091	$9,146	$8,290	$9,858	$7,346	$2,518	($667)	$600
36	February 2018	28	8.49%	$19,488	$4,806	$4,356	$5,179	$3,860	$1,323	($350)	$315
37	March 2018	31	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
38	Total	365		$1,258,571	$310,347	$281,301	$334,491	$249,271	$85,438	($22,626)	$20,348
39	Deferred Tax Without Proration	Line 25		$2,753,518	$678,982	$615,435	$731,803	$545,359	$186,922	($49,501)	$44,518
40	Proration Adjustment	Line 38 - Line 39		($1,494,947)	($368,634)	($334,133)	($397,312)	($296,088)	($101,484)	$26,875	($24,170)

Column Notes:

(j) Sum of remaining days in the year (Col (i)) divided by 365

(l) through (r) = Current Year Line 25 * Current Month Col (j)

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
True-Up for FY 2013 through FY 2016 Work Order Write Off Adjustment

		(a)	(b)	(c)	(d)	(e)	(f)
				Vintage Capital Investment Year			
		FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
1	Total Net Plant in Service	($2,851,624)	$16,336,358	$52,406,818	$68,819,926	$61,119,817	$76,828,817
2	Total Net Plant in Service (as previously filed)	($2,316,922)	$17,213,686	$52,983,817	$69,512,731	$61,119,817	$76,828,817
3	Work Order Write Off Adjustment	($534,702)	($877,328)	($576,999)	($692,805)	$0	$0

Revenue Requirement Decrease due to Work Order Write Off

				Revenue Requirement Year			
	Vintage Capital Investment Year	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
4	FY 2012	(0)	0	0	140	0	126
5	FY 2013	(26,953)	(66,982)	(63,875)	(62,926)	(61,074)	(60,016)
6	FY 2014	0	(35,417)	(84,872)	(82,930)	(81,006)	(78,902)
7	FY 2015	0	0	(25,125)	(49,818)	(48,962)	(48,045)
8	FY 2016	0	0	0	(33,917)	(67,061)	(65,386)
9	FY 2017	0	0	0	0	0	0
10	FY 2018	0	0	0	0	0	0
11	**TOTAL**	**(26,953)**	**(102,398)**	**(173,872)**	**(229,451)**	**(258,102)**	**(252,223)**

12	**Total FY 2013 through FY 2016 revenue requirement impact**	**(532,674)**

Line Notes:

1 Col (a) = Page 12 of 25, Line 6; Col (b) = Page 10 of 25, Line 8; Col (c) = Page 8 of 25, Line 8; Col (d) = Page 6 of 25, Line 8; Col (e) = Page 4 of 25; Col (f) =Page 2 of 25, Line 8
2 Col (a) through Col (d) = As approved in RIPUC Docket No. 4540
3 Col (a) through Col (d) = Line 1 - Line 2
4 Col (a) through Col (f) = Page 14 of 25 , Line 35
5 Col (a) through Col (f) = Page 12 of 25 , Line 35
6 Col (a) through Col (f) = Page 10 of 25 , Line 37
7 Col (a) through Col (f) = Page 8 of 25 , Line 31
8 Col (a) through Col (f) = Page 6 of 25 , Line 31
11 Col (a) through Col (f) = Sum of Lines 4 through 9

The Narragansett Electric Company
d/b/a National Grid
FY 2018 Gas ISR Plan Revenue Requirement
Weighted ISR Additions FY 2014

Line No.	Month No.	Month	FY 2014 ISR Additions (a)	In Rates (b)	Not In Rates (c) = (a) - (b)	Weight (d)	Weighted Average (e) = (d) * (c)
1				$57,184,191			
2	1	Apr-13	$5,780,474	4,765,349	$1,015,125	0.958	$972,828
3	2	May-13	5,780,474	4,765,349	1,015,125	0.875	888,234
4	3	Jun-13	5,780,474	4,765,349	1,015,125	0.792	803,640
5	4	Jul-13	5,780,474	4,765,349	1,015,125	0.708	719,047
6	5	Aug-13	5,780,474	4,765,349	1,015,125	0.625	634,453
7	6	Sep-13	5,780,474	4,765,349	1,015,125	0.542	549,859
8	7	Oct-13	5,780,474	4,765,349	1,015,125	0.458	465,265
9	8	Nov-13	5,780,474	4,765,349	1,015,125	0.375	380,672
10	9	Dec-13	5,780,474	4,765,349	1,015,125	0.292	296,078
11	10	Jan-14	5,780,474	4,765,349	1,015,125	0.208	211,484
12	11	Feb-14	5,780,474	-	5,780,474	0.125	722,559
13	12	Mar-14	5,780,474	-	5,780,474	0.042	240,853
14	Total FY 2014		$69,365,687	$47,653,493	$21,712,195		$6,884,973

15 **Total Additions February & March 2014** **$11,560,948**
16 **FY 2014 Weighted Average Incremental Rate Base Percentage** **31.71%**

Column (a) = Page 16 of 25, Line 1(c)
Column (b) = Page 16 of 25, Line 2(c)
Column (d) = (12.5 - Month No.) ÷ 12
Line 15 = Line 12(c) + Line 13(c)
Line 16 = Line 14(e)/Line 14(c)

Section 4 (CLEAN)
Rate Design & Bill Impacts

Section 4

Rate Design and Bill Impacts
FY 2018 Proposal

Rate Design and Bill Impacts
FY 2018 Proposal

Like the revenue requirement, the proposed Gas ISR Plan rate design for FY 2018 is designed to recover incremental capital investment in excess of capital investment that has been reflected in the rate base in the Company's last general rate case in Docket No. 4323, as well as incremental O&M described in Section 2 and the property tax described in Section 3, in accordance with the property tax recovery mechanism included in the Amended Settlement Agreement in Docket No. 4323. For purposes of rate design, the revenue requirement associated with cumulative capital investment and property tax recovery is allocated to rate classes based upon the rate base allocator from the Amended Settlement Agreement in Docket No. 4323. The incremental O&M expense associated with hiring, training, and supervising additional personnel to support an increase in Main Replacement work for FY 2018 has been allocated to all rate classes on a per-unit basis. The throughput for the April 2017 through March 2018 period is from the Company's most recent forecast filed in the Company's Gas Cost Recovery filing in Docket No. 4647. Attachment 1S of this section provides the proposed ISR factors by rate class. Attachment 2S of this section provides the Plan's bill impact[11] associated with the rate design in Attachment 1S by rate class. For the average residential heating customer utilizing 846 therms, the cumulative impact of the Gas ISR Plan will represent an annual increase of $30.74, or 2.7 percent.

[11] Bill impacts are provided using rates approved and currently in effect as of January 1, 2017.

Line No.

Line No.	FY 2018 Revenue Requirement	Rate Class	Rate Base Allocator (%)	Allocation to Rate Class ($)	Throughput (dth)	CapEx Factor (dth)	CapEx Factor (therm)	O&M Allocation (therm)	Total ISR Factor (therm)	Uncollectible %	ISR Factor (therm)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	$35,979,952										
2	$571,000										
3		Res-NH	3.73%	$1,342,416	731,668	$1.8347	$0.1834	$0.0014	$0.1848	3.18%	$0.1908
4		Res-H	61.56%	$22,148,592	18,942,983	$1.1692	$0.1169	$0.0014	$0.1183	3.18%	$0.1221
5		Small	8.19%	$2,945,687	2,317,184	$1.2712	$0.1271	$0.0014	$0.1285	3.18%	$0.1327
6		Medium	13.58%	$4,887,275	5,759,421	$0.8485	$0.0848	$0.0014	$0.0862	3.18%	$0.0890
7		Large LL	6.04%	$2,172,103	2,692,404	$0.8067	$0.0806	$0.0014	$0.0820	3.18%	$0.0846
8		Large HL	2.35%	$847,086	1,100,941	$0.7694	$0.0769	$0.0014	$0.0783	3.18%	$0.0808
9		XL-LL	0.77%	$276,660	1,264,200	$0.2188	$0.0218	$0.0014	$0.0232	3.18%	$0.0239
10		XL-HL	3.78%	$1,360,133	6,896,593	$0.1972	$0.0197	$0.0014	$0.0211	3.18%	$0.0217
11		Total	100.00%	$35,979,952	39,705,393						

(a) Line 1: Proposed Capital Revenue Requirement & Forecasted Annual Property Tax Recovery Mechanism (Section 3, Attachment 1S, Page 1, Line 11)
(a) Line 2: Proposed O&M (Section 3, Attachment 1S, Page 1, Line 1)
(c) Docket 4323, RI 2012 Rate Case
(d) Column (a) Line 1 * Column (c)
(e) Page 2, Column (m), Line 9
(f) Column (d) / Column (e), truncated to 4 decimal places
(g) Column (d) / (Column (e)*10), truncated to 4 decimal places
(h) Column (a) Line 2 / (Column (e) Line 11 * 10)
(i) Column (g) + Column (h)
(j) Docket 4323, RI 2012 Rate Case
(k) Column (i) / (1- Column (j)), truncated to 4 decimal places

Forecasted Throughput April 2017 - March 2018

Line No.		Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Total
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
1	Res-NH	78,155	53,411	35,271	25,629	24,348	25,656	35,674	58,723	85,787	106,186	108,017	94,810	731,668
2	Res-H	2,097,234	1,245,874	622,889	333,615	289,355	335,174	684,134	1,493,634	2,464,892	3,219,859	3,309,125	2,847,198	18,942,983
3	Small	276,157	136,161	33,921	2,491	2,243	2,511	43,678	174,752	331,216	453,121	467,886	393,048	2,317,184
4	Medium	614,469	395,543	234,724	158,138	147,199	159,385	250,580	460,823	710,571	901,597	922,767	803,624	5,759,421
5	Large LL	302,671	175,337	81,992	38,056	31,484	38,657	92,056	214,426	359,480	468,964	479,562	409,720	2,692,404
6	Large HL	101,004	85,940	75,294	69,410	68,640	69,473	76,143	90,615	107,646	121,217	121,902	113,658	1,100,941
7	X-Large LL	139,027	85,231	45,726	26,996	24,231	27,220	49,633	101,199	161,884	207,820	212,268	182,963	1,264,200
8	X-Large HL	583,749	549,611	524,542	528,931	527,168	529,074	543,369	576,259	614,965	643,983	646,821	628,120	6,896,593
9		4,192,466	2,727,108	1,654,359	1,183,267	1,114,668	1,187,152	1,775,267	3,170,430	4,836,440	6,122,746	6,268,349	5,473,140	39,705,393

Source: Company forecast

National Grid - RI Gas
Infrastructure, Safety, and Reliability (ISR) Filing
Bill Impact Analysis with Various Levels of Consumption:

Residential Heating:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(1)												
(2)												
(3)												
(4)			----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
(5)		550	$838.40	$818.36	$20.04	2.4%	$0.00	$0.00	$19.44	$0.00	$0.00	$0.60
(6)		608	$908.32	$886.20	$22.12	2.5%	$0.00	$0.00	$21.46	$0.00	$0.00	$0.66
(7)		667	$979.32	$955.05	$24.28	2.5%	$0.00	$0.00	$23.55	$0.00	$0.00	$0.73
(8)		727	$1,050.52	$1,024.09	$26.43	2.6%	$0.00	$0.00	$25.64	$0.00	$0.00	$0.79
(9)		788	$1,119.80	$1,091.12	$28.68	2.6%	$0.00	$0.00	$27.82	$0.00	$0.00	$0.86
(10)	**Average Customer**	846	$1,184.35	$1,153.61	$30.74	2.7%	$0.00	$0.00	$29.82	$0.00	$0.00	$0.92
(11)		904	$1,249.10	$1,216.21	$32.89	2.7%	$0.00	$0.00	$31.90	$0.00	$0.00	$0.99
(12)		966	$1,318.07	$1,282.90	$35.18	2.7%	$0.00	$0.00	$34.12	$0.00	$0.00	$1.06
(13)		1,023	$1,381.33	$1,344.12	$37.22	2.8%	$0.00	$0.00	$36.10	$0.00	$0.00	$1.12
(14)		1,081	$1,444.93	$1,405.58	$39.35	2.8%	$0.00	$0.00	$38.17	$0.00	$0.00	$1.18
(15)		1,145	$1,514.12	$1,472.46	$41.66	2.8%	$0.00	$0.00	$40.41	$0.00	$0.00	$1.25

Residential Heating Low Income:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(16)												
(17)												
(18)												
(19)			----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
(20)		550	$795.90	$775.86	$20.04	2.6%	$0.00	$0.00	$19.44	$0.00	$0.00	$0.60
(21)		608	$863.09	$840.97	$22.12	2.6%	$0.00	$0.00	$21.46	$0.00	$0.00	$0.66
(22)		667	$931.32	$907.04	$24.28	2.7%	$0.00	$0.00	$23.55	$0.00	$0.00	$0.73
(23)		727	$999.80	$973.36	$26.43	2.7%	$0.00	$0.00	$25.64	$0.00	$0.00	$0.79
(24)		788	$1,066.62	$1,037.94	$28.68	2.8%	$0.00	$0.00	$27.82	$0.00	$0.00	$0.86
(25)	**Average Customer**	846	$1,128.95	$1,098.21	$30.74	2.8%	$0.00	$0.00	$29.82	$0.00	$0.00	$0.92
(26)		904	$1,191.49	$1,158.61	$32.89	2.8%	$0.00	$0.00	$31.90	$0.00	$0.00	$0.99
(27)		966	$1,258.12	$1,222.94	$35.18	2.9%	$0.00	$0.00	$34.12	$0.00	$0.00	$1.06
(28)		1,023	$1,319.23	$1,282.02	$37.22	2.9%	$0.00	$0.00	$36.10	$0.00	$0.00	$1.12
(29)		1,081	$1,380.72	$1,341.37	$39.35	2.9%	$0.00	$0.00	$38.17	$0.00	$0.00	$1.18
(30)		1,145	$1,447.68	$1,406.02	$41.66	3.0%	$0.00	$0.00	$40.41	$0.00	$0.00	$1.25

Note: Bill impacts are based on rates approved and currently in effect as of January 1, 2017.

National Grid - RI Gas
Infrastructure, Safety, and Reliability (ISR) Filing
Bill Impact Analysis with Various Levels of Consumption:

Residential Non-Heating:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(31)												
(32)												
(33)												
(34)			---	---	---	---	---	---	---	---	---	---
(35)		140	$347.56	$340.64	$6.92	2.0%	$0.00	$0.00	$6.71	$0.00	$0.00	$0.21
(36)		155	$366.48	$358.81	$7.67	2.1%	$0.00	$0.00	$7.44	$0.00	$0.00	$0.23
(37)		171	$386.68	$378.22	$8.46	2.2%	$0.00	$0.00	$8.21	$0.00	$0.00	$0.25
(38)		184	$403.11	$394.00	$9.10	2.3%	$0.00	$0.00	$8.83	$0.00	$0.00	$0.27
(39)		198	$420.73	$410.94	$9.79	2.4%	$0.00	$0.00	$9.50	$0.00	$0.00	$0.29
(40)	**Average Customer**	214	$440.52	$429.95	$10.58	2.5%	$0.00	$0.00	$10.26	$0.00	$0.00	$0.32
(41)		228	$458.59	$447.34	$11.25	2.5%	$0.00	$0.00	$10.91	$0.00	$0.00	$0.34
(42)		244	$478.79	$466.76	$12.03	2.6%	$0.00	$0.00	$11.67	$0.00	$0.00	$0.36
(43)		258	$496.47	$483.73	$12.74	2.6%	$0.00	$0.00	$12.36	$0.00	$0.00	$0.38
(44)		275	$517.93	$504.35	$13.59	2.7%	$0.00	$0.00	$13.18	$0.00	$0.00	$0.41
(45)		288	$534.32	$520.10	$14.22	2.7%	$0.00	$0.00	$13.79	$0.00	$0.00	$0.43

Residential Non-Heating Low Income:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(46)												
(47)												
(48)												
(49)			---	---	---	---	---	---	---	---	---	---
(50)		140	$325.14	$318.22	$6.92	2.2%	$0.00	$0.00	$6.71	$0.00	$0.00	$0.21
(51)		155	$343.38	$335.71	$7.67	2.3%	$0.00	$0.00	$7.44	$0.00	$0.00	$0.23
(52)		171	$362.86	$354.40	$8.46	2.4%	$0.00	$0.00	$8.21	$0.00	$0.00	$0.25
(53)		184	$378.70	$369.59	$9.10	2.5%	$0.00	$0.00	$8.83	$0.00	$0.00	$0.27
(54)		198	$395.69	$385.90	$9.79	2.5%	$0.00	$0.00	$9.50	$0.00	$0.00	$0.29
(55)	**Average Customer**	214	$414.77	$404.19	$10.58	2.6%	$0.00	$0.00	$10.26	$0.00	$0.00	$0.32
(56)		228	$432.19	$420.94	$11.25	2.7%	$0.00	$0.00	$10.91	$0.00	$0.00	$0.34
(57)		244	$451.67	$439.64	$12.03	2.7%	$0.00	$0.00	$11.67	$0.00	$0.00	$0.36
(58)		258	$468.71	$455.97	$12.74	2.8%	$0.00	$0.00	$12.36	$0.00	$0.00	$0.38
(59)		275	$489.40	$475.82	$13.59	2.9%	$0.00	$0.00	$13.18	$0.00	$0.00	$0.41
(60)		288	$505.20	$490.98	$14.22	2.9%	$0.00	$0.00	$13.79	$0.00	$0.00	$0.43

Note: Bill impacts are based on rates approved and currently in effect as of January 1, 2017.

National Grid - RI Gas
Infrastructure, Safety, and Reliability (ISR) Filing
Bill Impact Analysis with Various Levels of Consumption:

C & I Small:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(61)												
(62)												
(63)												
(64)			---	---	---	---	---	---	---	---	---	---
(65)		880	$1,378.09	$1,328.82	$49.27	3.7%	$0.00	$0.00	$47.79	$0.00	$0.00	$1.48
(66)		973	$1,480.11	$1,425.65	$54.45	3.8%	$0.00	$0.00	$52.82	$0.00	$0.00	$1.63
(67)		1,067	$1,582.43	$1,522.73	$59.70	3.9%	$0.00	$0.00	$57.91	$0.00	$0.00	$1.79
(68)		1,162	$1,683.46	$1,618.39	$65.07	4.0%	$0.00	$0.00	$63.12	$0.00	$0.00	$1.95
(69)		1,258	$1,779.82	$1,709.39	$70.43	4.1%	$0.00	$0.00	$68.32	$0.00	$0.00	$2.11
(70)	**Average Customer**	1,352	$1,873.10	$1,797.43	$75.67	4.2%	$0.00	$0.00	$73.40	$0.00	$0.00	$2.27
(71)		1,446	$1,967.07	$1,886.10	$80.97	4.3%	$0.00	$0.00	$78.54	$0.00	$0.00	$2.43
(72)		1,542	$2,062.47	$1,976.13	$86.34	4.4%	$0.00	$0.00	$83.75	$0.00	$0.00	$2.59
(73)		1,635	$2,155.00	$2,063.45	$91.55	4.4%	$0.00	$0.00	$88.80	$0.00	$0.00	$2.75
(74)		1,730	$2,248.37	$2,151.53	$96.85	4.5%	$0.00	$0.00	$93.94	$0.00	$0.00	$2.91
(75)		1,825	$2,341.80	$2,239.66	$102.13	4.6%	$0.00	$0.00	$99.07	$0.00	$0.00	$3.06

C & I Medium:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(76)												
(77)												
(78)												
(79)			---	---	---	---	---	---	---	---	---	---
(80)		7,941	$8,463.58	$8,208.98	$254.60	3.1%	$0.00	$0.00	$246.96	$0.00	$0.00	$7.64
(81)		8,796	$9,280.88	$8,998.86	$282.02	3.1%	$0.00	$0.00	$273.56	$0.00	$0.00	$8.46
(82)		9,650	$10,096.80	$9,787.38	$309.41	3.2%	$0.00	$0.00	$300.13	$0.00	$0.00	$9.28
(83)		10,505	$10,914.15	$10,577.31	$336.84	3.2%	$0.00	$0.00	$326.73	$0.00	$0.00	$10.11
(84)		11,361	$11,731.70	$11,367.44	$364.27	3.2%	$0.00	$0.00	$353.34	$0.00	$0.00	$10.93
(85)	**Average Customer**	12,217	$12,549.58	$12,157.89	$391.69	3.2%	$0.00	$0.00	$379.94	$0.00	$0.00	$11.75
(86)		13,073	$13,367.48	$12,948.34	$419.14	3.2%	$0.00	$0.00	$406.57	$0.00	$0.00	$12.57
(87)		13,928	$14,184.27	$13,737.67	$446.60	3.3%	$0.00	$0.00	$433.20	$0.00	$0.00	$13.40
(88)		14,782	$15,000.71	$14,526.75	$473.96	3.3%	$0.00	$0.00	$459.74	$0.00	$0.00	$14.22
(89)		15,637	$15,817.41	$15,316.02	$501.39	3.3%	$0.00	$0.00	$486.35	$0.00	$0.00	$15.04
(90)		16,492	$16,634.78	$16,106.00	$528.78	3.3%	$0.00	$0.00	$512.92	$0.00	$0.00	$15.86

Note: Bill impacts are based on rates approved and currently in effect as of January 1, 2017.

National Grid - RI Gas
Infrastructure, Safety, and Reliability (ISR) Filing
Bill Impact Analysis with Various Levels of Consumption:

C & I LLF Large:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(91)												
(92)												
(93)												
(94)			---	---	---	---	---	---	---	---	---	---
(95)		41,066	$41,425.78	$40,121.83	$1,303.95	3.2%	$0.00	$0.00	$1,264.83	$0.00	$0.00	$39.12
(96)		45,488	$45,652.29	$44,207.93	$1,444.36	3.3%	$0.00	$0.00	$1,401.03	$0.00	$0.00	$43.33
(97)		49,910	$49,878.87	$48,294.07	$1,584.79	3.3%	$0.00	$0.00	$1,537.25	$0.00	$0.00	$47.54
(98)		54,334	$54,107.14	$52,381.89	$1,725.26	3.3%	$0.00	$0.00	$1,673.50	$0.00	$0.00	$51.76
(99)		58,757	$58,334.48	$56,468.80	$1,865.68	3.3%	$0.00	$0.00	$1,809.71	$0.00	$0.00	$55.97
(100)	**Average Customer**	63,179	$62,561.17	$60,555.08	$2,006.09	3.3%	$0.00	$0.00	$1,945.91	$0.00	$0.00	$60.18
(101)		67,600	$66,786.75	$64,640.28	$2,146.46	3.3%	$0.00	$0.00	$2,082.07	$0.00	$0.00	$64.39
(102)		72,023	$71,014.21	$68,727.29	$2,286.92	3.3%	$0.00	$0.00	$2,218.31	$0.00	$0.00	$68.61
(103)		76,447	$75,243.03	$72,815.64	$2,427.39	3.3%	$0.00	$0.00	$2,354.57	$0.00	$0.00	$72.82
(104)		80,870	$79,470.43	$76,902.58	$2,567.86	3.3%	$0.00	$0.00	$2,490.82	$0.00	$0.00	$77.04
(105)		85,292	$83,696.95	$80,988.73	$2,708.23	3.3%	$0.00	$0.00	$2,626.98	$0.00	$0.00	$81.25

C & I HLF Large:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(106)												
(107)												
(108)												
(109)			---	---	---	---	---	---	---	---	---	---
(110)		50,411	$44,308.29	$42,775.19	$1,533.10	3.6%	$0.00	$0.00	$1,487.11	$0.00	$0.00	$45.99
(111)		55,841	$48,846.65	$47,148.38	$1,698.27	3.6%	$0.00	$0.00	$1,647.32	$0.00	$0.00	$50.95
(112)		61,273	$53,386.49	$51,523.04	$1,863.45	3.6%	$0.00	$0.00	$1,807.55	$0.00	$0.00	$55.90
(113)		66,699	$57,921.85	$55,893.41	$2,028.44	3.6%	$0.00	$0.00	$1,967.59	$0.00	$0.00	$60.85
(114)		72,129	$62,460.22	$60,266.63	$2,193.60	3.6%	$0.00	$0.00	$2,127.79	$0.00	$0.00	$65.81
(115)	**Average Customer**	77,558	$66,997.75	$64,639.00	$2,358.74	3.6%	$0.00	$0.00	$2,287.98	$0.00	$0.00	$70.76
(116)		82,989	$71,536.13	$69,012.25	$2,523.89	3.7%	$0.00	$0.00	$2,448.17	$0.00	$0.00	$75.72
(117)		88,416	$76,072.24	$73,383.31	$2,688.94	3.7%	$0.00	$0.00	$2,608.27	$0.00	$0.00	$80.67
(118)		93,847	$80,611.39	$77,757.28	$2,854.11	3.7%	$0.00	$0.00	$2,768.49	$0.00	$0.00	$85.62
(119)		99,275	$85,148.25	$82,129.06	$3,019.19	3.7%	$0.00	$0.00	$2,928.61	$0.00	$0.00	$90.58
(120)		104,705	$89,686.57	$86,502.27	$3,184.30	3.7%	$0.00	$0.00	$3,088.77	$0.00	$0.00	$95.53

Note: Bill impacts are based on rates approved and currently in effect as of January 1, 2017.

National Grid - RI Gas
Infrastructure, Safety, and Reliability (ISR) Filing
Bill Impact Analysis with Various Levels of Consumption:

C & I LLF Extra-Large:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(121)												
(122)												
(123)												
(124)			---	---	---	---	---	---	---	---	---	---
(125)		174,357	$130,818.50	$129,542.26	$1,276.24	1.0%	$0.00	$0.00	$1,237.95	$0.00	$0.00	$38.29
(126)		193,136	$144,340.54	$142,926.86	$1,413.68	1.0%	$0.00	$0.00	$1,371.27	$0.00	$0.00	$42.41
(127)		211,912	$157,860.63	$156,309.49	$1,551.13	1.0%	$0.00	$0.00	$1,504.60	$0.00	$0.00	$46.53
(128)		230,688	$171,381.29	$169,692.76	$1,688.54	1.0%	$0.00	$0.00	$1,637.88	$0.00	$0.00	$50.66
(129)		249,466	$184,902.67	$183,076.67	$1,826.00	1.0%	$0.00	$0.00	$1,771.22	$0.00	$0.00	$54.78
(130)	**Average Customer**	268,243	$198,423.34	$196,459.93	$1,963.41	1.0%	$0.00	$0.00	$1,904.51	$0.00	$0.00	$58.90
(131)		287,018	$211,942.95	$209,842.10	$2,100.86	1.0%	$0.00	$0.00	$2,037.83	$0.00	$0.00	$63.03
(132)		305,796	$225,464.88	$223,226.57	$2,238.31	1.0%	$0.00	$0.00	$2,171.16	$0.00	$0.00	$67.15
(133)		324,573	$238,985.67	$236,609.91	$2,375.75	1.0%	$0.00	$0.00	$2,304.48	$0.00	$0.00	$71.27
(134)		343,350	$252,506.39	$249,993.19	$2,513.20	1.0%	$0.00	$0.00	$2,437.80	$0.00	$0.00	$75.40
(135)		362,127	$266,027.12	$263,376.52	$2,650.61	1.0%	$0.00	$0.00	$2,571.09	$0.00	$0.00	$79.52

C & I HLF Extra-Large:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(136)												
(137)												
(138)												
(139)			---	---	---	---	---	---	---	---	---	---
(140)		447,421	$303,810.12	$301,826.74	$1,983.38	0.7%	$0.00	$0.00	$1,923.88	$0.00	$0.00	$59.50
(141)		495,605	$335,960.65	$333,763.63	$2,197.02	0.7%	$0.00	$0.00	$2,131.11	$0.00	$0.00	$65.91
(142)		543,789	$368,111.95	$365,701.37	$2,410.59	0.7%	$0.00	$0.00	$2,338.27	$0.00	$0.00	$72.32
(143)		591,972	$400,261.93	$397,637.73	$2,624.21	0.7%	$0.00	$0.00	$2,545.48	$0.00	$0.00	$78.73
(144)		640,155	$432,411.88	$429,574.11	$2,837.77	0.7%	$0.00	$0.00	$2,752.64	$0.00	$0.00	$85.13
(145)	**Average Customer**	688,340	$464,563.44	$461,512.06	$3,051.38	0.7%	$0.00	$0.00	$2,959.84	$0.00	$0.00	$91.54
(146)		736,523	$496,713.71	$493,448.71	$3,265.00	0.7%	$0.00	$0.00	$3,167.05	$0.00	$0.00	$97.95
(147)		784,708	$528,864.83	$525,386.23	$3,478.60	0.7%	$0.00	$0.00	$3,374.24	$0.00	$0.00	$104.36
(148)		832,891	$561,015.61	$557,323.39	$3,692.22	0.7%	$0.00	$0.00	$3,581.45	$0.00	$0.00	$110.77
(149)		881,074	$593,165.51	$589,259.70	$3,905.80	0.7%	$0.00	$0.00	$3,788.63	$0.00	$0.00	$117.17
(150)		929,259	$625,317.44	$621,198.02	$4,119.42	0.7%	$0.00	$0.00	$3,995.84	$0.00	$0.00	$123.58

Note: Bill impacts are based on rates approved and currently in effect as of January 1, 2017.

Exhibit 2S-JBC (Redlined)
Gas ISR Plan FY2018

The Narragansett Electric Company
d/b/a National Grid

Gas Infrastructure, Safety and Reliability Plan FY 2018 Proposal (Revised)

~~December 1, 2016~~January 26, 2017

Submitted to:
Rhode Island Public Utilities Commission

RIPUC Docket No. 4678

nationalgrid

Section 1 (Redlined)
Introduction & Summary

Section 1

Introduction and Summary
FY 2018 Proposal

Introduction and Summary
FY 2018 Proposal

In consultation with the Rhode Island Division of Public Utilities and Carriers (Division), National Grid[1] has developed the following proposed fiscal year (FY) 2018[2] gas infrastructure, safety, and reliability (ISR) plan (Gas ISR Plan or Plan) in compliance with R.I. Gen. Laws § 39-1-27.7.1 (Revenue Decoupling Law), which provides for the filing of "[a]n annual gas 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."[3] The proposed Gas ISR Plan addresses capital spending on gas infrastructure and other costs related to maintaining the safety and reliability of the Company's gas distribution system. The proposed Plan for the Company's gas distribution operations is the product of a collaborative effort with the Division. Through the Plan, the Company will maintain and upgrade its gas delivery system by proactively replacing leak-prone gas mains and services; upgrading the system's custody transfer stations, pressure regulating systems and peak shaving plants; responding to emergency leak situations; and addressing infrastructure conflicts that arise out of state, municipal and third-party construction projects. The Plan intends to attain these safety and reliability goals through a cost-effective, coordinated work plan. The level of work that the Plan provides will sustain and enhance the safety and reliability of the Rhode Island gas pipeline infrastructure, promote

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

2 FY 2018 is defined as the 12 months ending March 31, 2018.

3 R.I. Gen. Laws § 39-1-27.7.1(c)(2).

efficiency in the management and operation of the gas distribution system, and directly benefit Rhode Island gas customers. On December 1, 2016, the Company submitted the Plan to the Rhode Island Public Utilities Commission (PUC) for review. In the initial Plan submitted on December 1, the Company explained that it would submit a revised Plan in January 2017 to include certain updated spending amounts pertinent to the Plan. The Company now submits this revised Plan to the ~~Rhode Island Public Utilities Commission (~~PUC~~)~~ for review.[4]

This Introduction and Summary presents an overview of the proposed FY 2018 Plan for the statutory categories of costs, the resulting FY 2018 revenue requirement associated with the proposed Plan, the rate design based upon that revenue requirement, and the estimated typical bill impacts resulting from the rate design.

The proposed Gas ISR Plan describes the Company's safety and reliability activities and the multi-year plan upon which the FY 2018 Plan is based. The Plan also addresses capital investment in utility infrastructure for the upcoming fiscal year. The Plan itemizes the recommended work activities by general category and provides budgets for capital investment and associated Operations and Maintenance (O&M) expenses.

As envisioned in the Revenue Decoupling Law, after the end of the fiscal year, the Company will true up the Gas ISR Plan's budgeted levels to its actual investment and expenditures, and reconcile the revenue requirement associated with the actual investment and

[4] In accordance with R.I. Gen. Laws § 39-1-27.7.1(d), the Company and the Division must work together over the course of 60 days in an attempt to reach an agreement on a proposed Plan, which must then be submitted to the PUC for review and approval within 90 days.

expenditures with the revenue billed from the rate adjustments implemented at the beginning of each fiscal year. The Company will continue to file quarterly reports with the Division and PUC concerning the progress of its Gas ISR programs. In addition, when the Company makes its reconciliation and rate adjustment filing described below, the Company will file an annual report on the prior fiscal year's activities. In implementing the Gas ISR Plan in any fiscal year, the circumstances encountered during the year may require reasonable deviations from the original Gas ISR Plan. In such cases, the Company will include an explanation of any significant deviations in its quarterly reports.

The FY 2018 level of capital and related O&M spending provided in the Gas ISR Plan to maintain the safety and reliability of the Company's gas delivery infrastructure is $101.76~~$98.47~~ million~~, plus additional dollars expected to be added for the decommissioning of the Cumberland liquefied natural gas (LNG) tank (see discussion below)~~. A description of the Company's proposed capital investment plan for FY 2018 is provided in Section 2. The revenue requirement description and calculations are contained in Section 3. A description of the rate design and bill impacts are provided in Section 4.

Section 2 includes a Special Project subsection that describes the Company's decision, as communicated to the Division on August 26, 2016, to decommission the liquefied natural gas (LNG) tank in Cumberland. Under the current plan, the expectation is that the majority of the demolition work will be completed in FY 2018. The Company proposes total spending of $3.59 million for Phase 3 of the decommissioning, which includes the final demolition of the tank.

This estimate is considered a Level II estimate, which has a projected accuracy of +/- 25 percent. The Company derived this estimate by applying its standard estimation process, which incorporates the appropriate levels of Company contingency, construction oversight and capital overhead allocations. This estimate also takes into account the following assumptions: (i) contaminant levels in the debris (PCBs, heavy metals and asbestos) have not been quantified, but worst case (>50 parts per billion (PPB)) has been assumed; (ii) expected duration of construction time is three months; (iii) environmental controls and permitting have been incorporated; and (iv) a forensic analysis of the tank condition that resulted in the decision to decommission. Final site restoration, including storm water management, is expected to occur in FY 2019, so is not part of this estimate. ~~The Company anticipates having a preliminary schedule and cost estimate for such work in January 2017, and will submit a revised FY 2018 Gas ISR Plan at that time to reflect the proposed FY 2018 spending for this category, as well as any modifications to the total Plan spending as a result of such work. This revision will increase the $98.47 million of total spending identified above, which will impact the revenue requirement and associated bill impacts. The Company will include an updated revenue requirement and revised bill impacts with its revised filing.~~

Gas Capital Investment Plan

The Company's proposed gas capital investment plan set forth in Section 2 summarizes the Company's planned capital investments in terms of the following key Discretionary[5] and Non-Discretionary[6] categories:

Non-Discretionary:

A. Public Works
B. Mandated Programs
C. Damage / Failure
D. Special Project

Discretionary:

A. Proactive Main Replacement
B. Proactive Service Replacement
C. Gas System Reliability

Section 2 itemizes the proposed activities by sub-categories and provides budgets for each sub-category. The Company has included its capital budget, identified the relevant projects that would be part of the FY 2018 Gas ISR Plan, and provided its rationale for the need for and benefit of performing such work to provide safe and reliable service to its customers. The Company has also provided a five-year capital plan to provide a longer-term approach to infrastructure, safety, and reliability and to demonstrate how the FY 2018 Plan would be incorporated into that longer-term planning approach.

The Company's FY 2018 Gas ISR Plan includes the elimination or rehabilitation of a total of 61 miles of leak-prone pipe (50 miles of proactive main replacement and rehabilitation

[5] Discretionary programs are not required by legal, regulatory code and/or agreement, with limited exceptions.

[6] Non-Discretionary programs include those required by legal, regulatory code and/or agreement, or a result of damage or failure with limited exceptions.

work, 10 miles of public works replacement work and 1 mile of reliability work). This rate is consistent with the weighted rate of installation and abandonment of leak-prone pipe authorized by the PUC in the FY 2017 Gas ISR Plan.

Revenue Requirement

Based upon the estimated amounts in the proposed Gas ISR Plan, the Company has provided a calculation of the proposed cumulative revenue requirement resulting from the proposed FY 2018 capital investment plan. Section 3 contains a description of the revenue requirement model for FY 2018 and an illustrative calculation for FY 2019. This calculation would form the basis for the Plan rate adjustment, which would become effective April 1, 2017, upon PUC approval. As provided in Section 3, in accordance with RIPUC NG-GAS No. 101, Section 3, Schedule A, Sheets 5-6 of the Company's gas tariff, the Company will reconcile this rate adjustment as part of its annual Distribution Adjustment Charge filing. The pre-tax rate of return on rate base would be that rate of return approved by the PUC in the Amended Settlement Agreement in the Company's most recent general rate case, Docket No. 4323, and in the future it would change to reflect changes to the rate of return approved by the PUC in future rate case proceedings. Any change in the rate of return would be applicable on a prospective basis, effective on the date on which the change is effective.

Rate Design

For purposes of rate design, the revenue requirement associated with the capital investment is allocated to rate classes based upon the latest rate base allocator approved in the Company's Amended Settlement Agreement in Docket No. 4323. For each rate class, the allocated revenue requirement is divided by the applicable fiscal year forecasted therm deliveries to arrive at a per-therm factor unique to each rate class. The Company is allocating other related costs associated with incremental O&M costs to all rate classes on a per-unit basis.

The estimated typical bill impacts associated with the rate design and bill impacts are provided in Section 4. The bill impact of the Gas ISR Plan for the average residential heating customer for the period April 1, 2017 through March 31, 2018 would be an annual increase of $30.74~~$32.88~~, or 2.7~~2.9~~ percent. ~~As mentioned above, this impact will be re-calculated and the Plan will be updated after the Company receives a cost estimate for the Cumberland LNG work.~~

As demonstrated herein, the Company and the Division have worked together to arrive at a Gas ISR Plan that meets the Revenue Decoupling Law's goals of providing a safe and reliable gas distribution system for Rhode Island.

Section 2 (Redlined)
Gas Capital Investment

Section 2

Gas Capital Investment Plan
FY 2018 Proposal

Gas Capital Investment Plan
FY 2018 Proposal

Background

The Company developed its proposed capital investment and associated O&M expense plan to meet its obligation to provide safe, reliable, and efficient gas distribution service for customers at reasonable costs.[7] The Gas ISR Plan includes capital investment spending needed to meet state and federal regulatory requirements applicable to the Company's gas system and to maintain its distribution infrastructure in a safe and reliable condition. To address the replacement of leak-prone gas main and at-risk services, the Plan includes infrastructure, safety and reliability work for cast-iron and non-cathodically protected steel mains and services. The Plan also contains capital spending related to safety and reliability for public works, mandated programs, gas reliability, and a special project~~s~~.

Consistent with the goals of the Revenue Decoupling Law, in order to continue to provide safe and reliable gas delivery service to customers, it is critical that the Company remain vigilant with respect to investing in its infrastructure and have appropriate and timely cost recovery. To that end, the Company's proposed FY 2018 Plan identifies the capital spending investment that it expects to complete during FY 2018. At the end of this section, Table 1 contains a description of the proposed budget for the FY 2018 Plan; Table 2 contains a proposed five-year spending forecast for FY 2018 through FY 2022; and Table 3 contains actual spending

[7] The Company delivers natural gas to approximately 262,000 Rhode Island residential and commercial and industrial customers in 33 cities and towns in Rhode Island. To provide this service, the Company owns and maintains approximately 3,200 miles of gas mains and approximately 195,000 gas services.

based on the prior five-year period, FY 2012 through FY 2016. The Company proposes to invest a total of ~~$98.47~~$101.76 million of Plan investments, including ~~$31.31~~$34.73 million[8] for non-discretionary capital expenditures (i.e., work required by legal, regulatory code and/or agreement or a result of damage or failure with limited exception), ~~$66.59~~$66.46 million for discretionary capital expenditures and $0.57 million in O&M expenditures, which would be included in the FY 2018 Gas ISR recovery mechanism.[9] ~~In addition, the Company is also evaluating costs associated with decommissioning the LNG facility in Cumberland (see further discussion below).~~ The Plan is designed to maintain the safety and reliability of the Company's gas delivery infrastructure.

As set forth in Table 1 at the end of this section, the Company proposes the following levels of spending for each category of programs contained in the ~~$98.47~~$101.76 million that the Company proposes for its Gas ISR Plan spending:

Non-Discretionary:

- $12.22 million net investment for Public Works programs, including $13.55 million in capital spend and $1.33 million in reimbursements;
- ~~$18.84~~$18.67 million for Mandated Programs (i.e., corrosion, meter replacements, integrity management, cross bore remediation, reactive main - cast iron joint encapsulation, reactive service replacements - leaks, reactive service

[8] ~~This amount does not include the costs to decommission the Cumberland LNG tank, which costs have not yet been determined. The Company anticipates having a preliminary schedule and cost estimate for such work in January 2017, and will submit a revised FY 2018 Gas ISR Plan at that time to reflect the proposed FY 2018 spending for this category, as well as any modifications to the total Plan spending as a result of such work.~~

[9] For FY 2018, the Company plans to spend $125.41~~$122.12~~ million of total capital investment. Of that total amount, $24.22 million will be for projected growth and allocated spending, which is not included for recovery in the FY 2018 Gas ISR plan.

replacements - non-leaks/other and reactive main replacement - maintenance);

- $0.25 million for Damage or Failure programs; and
- $3.59 ~~TBD~~ million for decommissioning the Cumberland LNG tank and associated facilities ~~(see discussion below)~~.

Discretionary:

- $54.11 million for Proactive Main Replacement program, including large diameter leak-prone pipe rehabilitation;
- $0.90 million for Proactive Service Replacement program;
- ~~$11.59~~$11.45 million for Gas System Reliability, including work relative to System Automation~~, and Gas Control~~, Pressure Regulating Facilities, Take Station Refurbishment, Heater Systems, Gas System Reliability Enhancement, LNG facilities~~-~~, Valve Installation/Replacements, and Tools and Equipment; and
- $0.57 million for O&M expense for the continued payment of 16 personnel hired to support the increase in leak-prone pipe replacement.

As noted above, the Company will continue to file quarterly reports with the PUC and Division detailing the progress of its Gas ISR Plan programs.

Description of Large Programs and Projects

The proposed Gas ISR Plan includes a number of programs categorized under Non-Discretionary and Discretionary spending categories. Those programs are described in detail below.

Non-Discretionary Work:

A. Public Works

The purpose of the Public Works program is to address existing gas infrastructure conflicts, as appropriate, and to improve the safety and reliability of the Company's natural gas distribution system in conjunction with municipal reconstruction and water and sewer projects, which provide significant incremental benefits to customers and communities. Municipal and water and sewer work affords the Company an opportunity to replace additional leak-prone pipe and reduce paving costs by coordinating the Company's gas main replacement work with planned third-party construction projects, while also benefitting customers and communities by improving service delivery and minimizing construction impacts and inconvenience. The Company has an ongoing plan to replace targeted gas mains on a risk-based approach. Coordinating the Company's Integrity programs with planned municipal and water and sewer projects has yielded increased system reliability, system integrity, and optimized capital spending. Although one of the primary purposes of Public Works spending is to address direct

conflicts between planned third-party projects and existing gas infrastructure, Public Works spending provides the additional opportunity to coordinate other system improvement work, such as the replacement of leak-prone pipe, system reliability upgrades, elimination of redundant main, and regulator station upgrades.

The Company will manage multiple projects to address the dynamic nature of the Public Works process through effective liaison activity. While municipal schedules and plans change largely due to funding, it must be recognized that other factors also contribute to the scheduling of these projects (e.g., political, demand maintenance, etc.). Changes in municipal projects can and do create additional work in developing and coordinating the Company's planning and budgeting processes. Using the Company's five-year work planning process, the Company can provide some flexibility in scheduling, coordinating, and engineering projects in concert with municipal public works initiatives. For FY 2018, the Plan incorporates $13.55 million in spending under the Public Works category, of which $1.33 million is anticipated to be reimbursed under agreement with third parties. Overall, the Public Works budget provides for the replacement of approximately 10 miles of leak prone gas main consisting of cast iron and unprotected steel main.

B. Mandated Programs

Spending for Mandated Programs falls into the following eight categories: Corrosion, Purchase Meter Replacement, Pipeline Integrity IMP Programs, Cross Bore Remediation, Main Replacement Reactive - CI Joint Encapsulation, Reactive Service Replacement - Leaks, Reactive Service Replacement - Non-leak /Other and Reactive Main Replacement - Maintenance.

1. **Corrosion** – Cathodic protection effectively extends the service life of buried steel facilities (as compared to unprotected buried steel facilities) and can prolong replacement by 20 years or more. In 1971, the Code of Federal Regulations, Part 192, was amended to require the cathodic protection of all new buried steel gas facilities. Protection is accomplished in part through ensuring proper coating by establishing proper conditions on pipe segments through installation of rectifiers, anodes, insulators and test stations. In addition, the Corrosion Program includes control line work at existing regulator stations and cathodic protection upgrades. For FY 2018, the Company proposes to spend $1.04 million on this program, which align costs to prior year experience.

2. **Purchase Meter Replacement** – Capital costs for the Purchase Meter Replacement Program are required for the procurement of replacement meters. For FY 2018, the Company proposes to replace approximately 14,300 meters, which represents 5.5 percent of the existing meter population in Rhode Island, at a cost of $2.37 million.

3. **Pipeline Integrity - IMP** – This program is for the testing, modification and/or replacement of the Company's higher pressure facilities and pipelines (i.e., >124 psig). For FY 2018, this will include engineering and design work for testing and/or replacement of sections of pipe under the program. For FY 2018, the Company proposes to spend a total of $0.75 million for these projects.

4. **Cross Bore Remediation** – Under this program, the Company will conduct a camera inspection of the legacy directional drill installations to confirm that gas mains have not

penetrated through sewer laterals accidentally. If this has occurred, mechanical cleaning of the sewer laterals could damage the gas main and cause gas to rush into a building. The industry has experienced several incidents resulting from sewer penetrations. The program, which is in year one, will assess and remediate all areas at risk over a five-year period. For FY 2018, the Company proposes to spend a total of $0.50 million to inspect and address potential cross bore damage.

5. **Main Replacement Reactive - CI Joint Encapsulation** – This program provides funding for the leak sealing of cast iron bell joints that are discovered during proactive leak surveys, public odor calls or other activities. For FY 2018, the Company proposes to spend $3.52 million on this work.

6. **Reactive Service Replacement - Leaks** – The service leak repair program addresses leaking gas services through insertion, replacement and/or abandonment. For FY 2018, the Company proposes to spend $7.26 million for the service leak repair program.

7. **Reactive Service Replacement - Non-leak Other** – The Non-leak Other program contains the capital costs for service relocations, meter protection, service abandonments and the installation of curb valves. The Company's agreement with the Division to expand curb valve installations to properties inaccessible for inside inspection will provide additional public safety benefits and complement efforts in place aimed at improving collection and meter reading opportunities in those situations where Company

personnel have encountered difficulty gaining access to meters. For FY 2018, the Company proposes to spend ~~$2.67~~$2.50 million on this program.

8. **Reactive Main Replacement - Maintenance** – This category of work consists of emergency main replacements or modifications because of leaks or other unplanned events where main conditions dictate immediate replacement and/or gas facilities are subject to water intrusion or exposure and require remedy. Over the past several years, the Company has received minimal requests in this category, primarily because the Company's increased Proactive Main Replacement Program work has reduced the need for such work through construction of a more resilient system. The Company proposes to spend $0.75 million in this area.

In total, the Gas ISR Plan for FY 2018 contains ~~$18.84~~$18.67 million for all categories of mandated work.

C. Damage / Failure Program

The Company proposes to include funding for safety and reliability projects associated with remediation of damage or failure occurrences. Damage or failure projects are initiated in response to events outside the Company's control which require immediate action. The Company proposes a budget of $0.25 million for FY 2018 for such work.

D. Special Project

The Company has decided to decommission the LNG tank in Cumberland. The supply needed for this upcoming heating season will be obtained through additional pipeline supply and portable operations at the Cumberland facility. On August 26, 2016, the Company notified the Division of its decision to decommission the LNG tank, and the Division has indicated that it supports this decision. The plan for decommissioning will consist of three phases. Phase 1, which is estimated to cost $0.99 million, involves completing modifications to the facility to allow for utilization of portable tankers. Phase 2, which is estimated to cost $1.38 million, will address emptying liquids and purging of gaseous vapors from the tank. The Company expects to complete the work for Phase 1 and Phase 2 in FY 2017 and will include the actual costs for such work in its FY 2017 reconciliation filing.

Phase 3 involves the final demolition of the tank. The Company expects to begin and complete the majority of this work in FY 2018. ~~The majority of the total project costs are expected to be associated with Phase 3. The Company anticipates having a preliminary schedule and cost estimate for this work in January 2017, and will submit a revised FY 2018 Gas ISR Plan at that time to reflect the proposed FY 2018 spending for this category, as well as any modifications to the total Plan spending as a result of such work.~~ The Company proposes total spending of $3.59 million for Phase 3 of the decommissioning, which includes the final demolition of the tank. This estimate is considered a Level II estimate, which has a projected accuracy of +/- 25 percent. The Company derived this estimate by applying its standard estimation process, which incorporates the appropriate levels of Company contingency,

construction oversight and capital overhead allocations. This estimate also takes into account the following assumptions: (i) contaminant levels in the debris (PCBs, heavy metals and asbestos) have not been quantified, but worst case (>50 PPB) has been assumed; (ii) expected duration of construction time is three months; (iii) environmental controls and permitting have been incorporated; and (iv) a forensic analysis of the tank condition that resulted in the decision to decommission. Final site restoration, including storm water management, is expected to occur in FY 2019, so is not part of this estimate.

In total, for FY 2018, the Gas ISR Plan contains $34.73~~$31.31~~ million for non-discretionary work, including costs associated with Phase 3 of the Cumberland LNG tank decommissioning. ~~plus the additional costs (TBD) for FY 2018 spending related to Phase 3 of the Cumberland LNG tank decommissioning.~~

Discretionary Work:

A. Proactive Main Replacement Program

The value of and need for targeted spending on the replacement of leak-prone gas main and services is well-documented and has been accepted by both the PUC and Division. For FY 2018, the Company forecasts spending $54.11 million on its Proactive Main Replacement and Rehabilitation programs, which will address approximately 50 miles of leak-prone gas main and 3,000 service relay, inserts or tie-ins.

1. Proactive Main Replacement (<16-inch)

The Proactive Main Replacement program (<16-inch) consists of abandonment of approximately 49 miles of cast iron and unprotected steel main with a diameter of less than 16 inches, and the renewal, abandonment or tie-over of existing services. Proactive Main Replacement program costs have increased over the past several years, in part because the proportion of cast iron gas mains that the Company is replacing has increased. Moreover, the costs for replacement of cast iron main is typically greater than unprotected bare steel due to several key factors, including the following: (1) cast iron is predominant on low and intermediate pressure systems consisting of larger diameter mains; and (2) cast iron facilities are typically centralized in urban areas where costs are driven by higher customer density, greater underground congestion (e.g., excavation), and increased restoration and traffic control. The Company has analyzed costs associated with work performed in FY 2016 and has developed budget projections based on project specific main replacement candidates identified for completion in the program. For FY 2018, the Company proposes to spend $52.11 million on the Proactive Main Replacement (<16-inch) program.

2. Proactive Large Diameter Program (>=16-inch)

The Company operates approximately 37 miles of large diameter (>=16-inch) leak-prone gas mains. The Proactive Large Diameter program consists of rehabilitating this category of leak-prone pipe through the implementation of a

sealing and lining program. For FY 2018, the Company proposes to spend a total of $2.00 million on this program to address approximately one-half to one mile of large diameter leak-prone pipe.

B. Proactive Service Replacement

At the request of the Division, the Company has assessed continuing risks associated with leak-prone services and has re-established a dedicated Proactive Service Replacement program targeted at replacement of leak-prone services. This program prioritizes leak-prone services for replacement based on an asset risk prioritization algorithm. For FY 2018, the Company proposes to spend a total of $0.90 million to replace approximately 200 services.

C. Gas System Reliability

Reliability spending includes 11~~2~~ programs to address gas control and system automation, valve installation/replacement, take station, pressure regulation, heating, LNG facilities, gas network reliability and resiliency, capital tools and equipment. The proposed Gas ISR Plan contains $11.45~~$11.59~~ million in spending for Gas System Reliability. A summary of each major program is provided below:

~~1. Gas Control~~

~~The primary purpose of the Gas Control program is to ensure that the Company will maintain sufficient monitoring and control capability in the gas distribution system to ensure safe and reliable operation. This includes remote control of facilities and equipment to allow for timely shut-down of facilities, adjustment of control variables and dispatch of resources to effectively respond to both normal operating concerns and~~

~~abnormal operating conditions. The Company proposes to spend $0.14 million in this area.~~

1~~2~~. Valve Installation / Replacement

Valves are used to sectionalize portions of the gas network to support both planned and unplanned field activities. Replacement of inoperable valves is necessary to ensure the Company's continued ability to effectively isolate portions of the distribution system. New valve installations are also occasionally needed to provide the capability to reduce the size of an isolation area where existing valves would result in broader shutdown than desired. For FY 2018, the Company has budgeted $0.20 million for this work.

2~~3~~. System Automation

The primary purpose of the System Automation program is to meet the Department of Transportation code requirements under 49 CFR Part 192, Docket ID 2007-27954, which were issued on December 3, 2009. These Code provisions contain the following pipeline safety requirements: (a) control room management/human factors, (b) modernization of the Company's system data and telemetry recording, and (c) increasing the level of system automation and control. The overall program will increase the safety, reliability, and efficiency of the gas system and, by extension, the level of service the Company provides to its customers.

The Company's ability to provide safe and reliable service is governed to a large extent by the Company's ability to maintain adequate pressure in its gas mains. To accomplish this task, the Company has approximately 195 gas pressure regulator stations disbursed throughout its Rhode Island gas service territory. Although a limited number of these regulator stations have full system telemetry and control capability, most do not. In addition to monitoring and controlling the regulator stations, the Company must also monitor system end points to ensure that adequate system pressures are being maintained in remote areas under a variety of operating conditions. For FY 2018, the Company is proposing to level fund spending of $1.00 million for its System Automation and Control program. The Company's proposal will provide AC power, telemetry and/or remote control to approximately 40 sites.

4. Heater Program

The Heater installation program provides for the installation and replacement of gas system heaters, which are operated to ensure proper conditioning and control of gas temperatures at key Company facilities. The Company plans to engineer and construct heaters at the Company's Cranston station during FY 2018 and FY 2019. The Company will spend $0.2 million for the preliminary work on the project during FY 2018.

5. Pressure Regulating Facilities

The pressure regulating facilities have been designed to reliably control gas distribution system pressures and maintain continuity of supply during normal and critical gas demand periods. Each station has specific requirements for flows and pressures based on the anticipated needs of the station. A facility includes both pressure-regulating piping and equipment as well as control lines, but it may also include a heater or a scrubber. The Company has instituted a program that provides for condition-based assessments of all stations. Accepted engineering guidelines provide for design, planning, and operation of these gas distribution facilities. Applicable state and federal codes are followed to help ensure safe and continuous supply of natural gas to the Company's customers and the communities it serves. The Company's proposed Plan includes enhancements in response to station work prioritized through condition-based assessments, which include, in part, station accessibility, pipe condition (i.e., corrosion), water intrusion, redundancy, station isolation, and common mode failure. Regulator station replacements are planned at two sites in East Providence. The Company will spend $1.64 million during FY 2018 for this category.

6. Allens Avenue Multi Station Rebuild Project

The Allens Avenue project is a multi-year project designed to replace or retire seven existing pressure regulating facilities at the major gas interchange. The work includes the abandonment and/or removal of obsolete pipe and equipment in

support of the safety and reliability of the Company's system at this location. For FY 2018, the Company proposes to spend $2.97 million for this project.

7. Take Station Refurbishments

The Take Station Refurbishment program will address required modifications to the Company's custody transfer stations. There are two projects identified for FY 2018 to provide for protection from over-pressurization. Projects include modifications at the Dey Street and Wampanoag Trail stations in East Providence. The Company will spend $0.80 million during FY 2018 for this program.

8. Gas System Reliability – Gas Planning Program

The Gas Planning program identifies projects that support system reliability through standardization and simplification of system operations (e.g., system up-ratings and de-ratings and regulator elimination), integration of systems (e.g., tie-ins), and new supply sources (e.g., take stations). For FY 2018, the Company proposes to spend approximately $2.25 million for five projects in its Gas Planning program. Three of these projects will assist in eliminating single-feed systems, one will provide for system interconnection and one will address flood-prone areas in Bristol. The projects include the added benefit of replacing approximately one mile of leak-prone pipe.

9. Instrumentation & Regulation (I&R) Reactive Program

The I&R Reactive program is established to address capital project requirements over and above the Pressure Regulation Capital budget. Projects range from instrumentation replacement due to failure; replacement of obsolete/unreliable equipment, such as regulators, pilots, boilers, heat exchangers, odorant equipment, station valves; and replacement of building roofs or doors due to deterioration. The Company proposes to spend $1.30 million in this program.

10. LNG Blanket

The LNG Blanket program is established to address capital project requirements at the Company's Exeter LNG plant. Major projects include a Supervisory Control and Data Acquisition (SCADA) upgrade and a vibration monitor. The Company proposes to spend $0.59 million in this program.

11. Capital Tools & Equipment

Capital tools include tools and equipment required to support performance of work contained in the Gas ISR Plan and to provide for safety and reliability of the gas distribution system. The Company will spend $0.50 on capital tools and equipment during FY18.

In total, for FY 2018, the proposed Gas ISR Plan contains ~~$66.59~~$66.46 million for D~~d~~iscretionary work.

O&M Spending

To support the increase in the Proactive Main Replacement program, in FY 2015 and FY 2016 the Company hired and trained 16 additional personnel to work on the Main Replacement Program. For FY 2018, the Company proposes to include $0.57 million of O&M expenses to pay for these necessary resources to address leak-prone pipe replacement. As in FY 2015 and FY 2016, the total amount of O&M expenses will be tracked and reconciled in the Company's next annual Gas ISR reconciliation filing.

Five-Year Gas ISR Investment Plan

As of December 31, 2015, approximately 1,237 miles, or 39 percent, of the 3,210 miles in the Company's gas distribution system in Rhode Island is made up of leak-prone pipe. The 1,237 miles of leak-prone pipe are comprised of 452 miles of unprotected steel and 785 miles of cast iron and wrought iron gas main. At the current pace of proposed replacement, the Company will eliminate or rehabilitate all cast iron, wrought-iron and unprotected steel main and services within the next 19 years.

The Company's proposed five-year Gas ISR investment plan is provided in Table 2. This table contains the approved FY 2017 plan spending along with spending projected within each of the primary categories for the period FY 2018 through FY 2022.

The Company's prior five-year Gas ISR investment plan actual spend is provided in Table 3.

Table 1

Narrangansett Gas
FY2018
($000)

	Budget	Revision	Revised Total
NON-DISCRETIONARY			
Public Works			
CSC/Public Works - Non-Reimbursable	$12,218		
CSC/Public Works - Reimbursable	$1,327		
CSC/Public Works - Reimbursements	-$1,327		
Public Works Total	**$12,218**	**$0**	**$12,218**
Mandated Programs			
Corrosion	$1,042		
Purchase Meter (Replacements)	$2,367		
Pipeline Integrity IMP (Integrity Management Program)	$750		
Cross Bore Remediation	$495		
Main Replacement (Reactive) - CI Joint Encapsulation	$3,519		
Service Replacement (Reactive) - Leaks	$7,256		
Service Replacements (Reactive) - Non-Leaks/Other	$2,667	-$169	
Main Replacement (Reactive) - Maintenance (incl Water Intrusion)	$745		
Mandated Total	**$18,841**	**-$169**	**$18,672**
Damage / Failure (Reactive)			
Damage / Failure Total	$250	$0	**$250**
Special Project			
Cumberland LNG Decommissioning	TBD	$3,589	**$3,589**
NON-DISCRETIONARY TOTAL	**$31,309**	**$3,420**	**$34,729**
DISCRETIONARY			
Proactive Main Replacement			
Main Replacement (Proactive) - Leak Prone Pipe	$52,106		
Main Replacement (Proactive) - Large Diameter LPCI Program	$2,000		
Proactive Main Replacement Total	**$54,106**	**$0**	**$54,106**
Proactive Service Replacement			
Proactive Service Replacement Total	$900	$0	**$900**
Reliability			
Gas System Control	$135	-$135	
Valve Installation/Replacement	$200		
System Automation	$1,000		
Heater Program	$200		
Pressure Regulating Facilities	$1,640		
Allens Ave Multi Station Rebuild	$2,970		
Take Station Refurbishment	$800		
Gas System Reliability - Gas Planning	$2,250		
I&R - Reactive	$1,300		
LNG - Blanket	$590		
Tools & Equipment	$500		
Reliability Total	**$11,585**	**-$135**	**$11,450**
DISCRETIONARY TOTAL	**$66,591**	**-$135**	**$66,456**
Capital Spending Total	**$97,900**	**$3,285**	**$101,185**
O&M	**$571**	**$0**	**$571**
Gas ISR Plan Total	**$98,471**	**$3,285**	**$101,756**

Table 2

RI Gas ISR Spending Forecast
($000)

Investment Categories	FY17 Approved Plan	FY18	FY19	FY20	FY21	FY22	FY18 to FY22 TOTAL
NON-DISCRETIONARY							
Public Works	$ 11,230	$ 12,218	$ 13,776	$ 15,404	$ 17,105	$ 17,532	$ 76,035
Mandated Programs	$ 15,364	$ 18,672	$ 18,621	$ 21,892	$ 22,323	$ 22,767	$ 104,275
Damage / Failure	$ -	$ 250	$ 255	$ 260	$ 265	$ 271	$ 1,301
Cumberland Decommissioning	$ -	$ 3,589	$ 2,000	$ -	$ -	$ -	$ 5,589
NON-DISCRETIONARY TOTAL	$ 26,594	$ 34,729	$ 34,652	$ 37,556	$ 39,693	$ 40,569	$ 187,200
DISCRETIONARY							
Proactive Main Replacement	$ 49,632	$ 54,106	$ 64,799	$ 67,201	$ 71,929	$ 71,066	$ 329,101
Proactive Service Replacement	$ -	$ 900	$ 918	$ 936	$ 955	$ 974	$ 4,683
Reliability	$ 9,250	$ 11,450	$ 13,886	$ 12,717	$ 15,824	$ 12,742	$ 66,619
Special Projects	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DISCRETIONARY TOTAL	$ 58,882	$ 66,456	$ 79,603	$ 80,854	$ 88,708	$ 84,782	$ 400,403
Capital Total	$ 85,476	$ 101,185	$ 114,255	$ 118,410	$ 128,402	$ 125,352	$ 587,603
O&M Total	$ 571	$ 571	$ 582	$ 594	$ 606	$ 618	$ 2,972
GAS ISR TOTAL	**$ 86,047**	**$ 101,756**	**$ 114,837**	**$ 119,004**	**$ 129,008**	**$ 125,970**	**$ 590,575**

Proactive Main Replacement includes large diameter program.
Reactive Main is included in Mandated Programs.

Table 3

RI Gas ISR Spend Historical

($000)

Investment Categories	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
NON-DISCRETIONARY					
Public Works	$ 3,312	$ 1,910	$ 3,190	$ 7,207	$ 7,732
Mandated Programs*	$ 14,917	$ 12,390	$ 15,980	$ 15,415	$ 16,861
Damage / Failure	$ -	$ -	$ -	$ -	$ -
NON-DISCRETIONARY TOTAL	$ 18,229	$ 14,300	$ 19,170	$ 22,622	$ 24,593
DISCRETIONARY					
Proactive Main Replacement	$ 25,989	$ 34,590	$ 41,790	$ 40,904	$ 58,386
Proactive Service Replacement	$ 3,252	$ 3,890	$ 2,550	$ 1,121	$ 1,789
Reliability	$ 9,795	$ 7,100	$ 8,720	$ 8,968	$ 7,914
Special Projects	$ -	$ -	$ 880	$ 3,728	$ 1,188
DISCRETIONARY TOTAL	$ 39,036	$ 45,580	$ 53,940	$ 54,721	$ 69,276
Capital Total	$ 57,265	$ 59,880	$ 73,110	$ 77,343	$ 93,869
O&M	$ -	$ -	$ -	$ 503	$ 464
GAS ISR TOTAL	**$ 57,265**	**$ 59,880**	**$ 73,110**	**$ 77,846**	**$ 94,333**

Reactive Main is included in Mandated Programs

Section 3 (Redlined)
Revenue Requirement

Section 3

Revenue Requirement
FY 2018 Proposal

Revenue Requirement
FY 2018 Proposal

The attached proposed revenue requirement calculation reflects the revenue requirement related to the Company's proposed investment in its Gas ISR Plan for the fiscal year ended March 31, 2018.

As demonstrated on Attachment 1S, Page 1, Column (b), the Company's Gas ISR Plan cumulative revenue requirement totals $36,550,952 ~~$37,273,083,~~ which is an incremental $10,964,501~~$11,686,632~~ over the amount currently being billed for the Gas ISR Plan. The revenue requirement consists of the following elements: (1) O&M expenses of $571,000 associated with hiring, training, and supervision of additional personnel to support the increase in leak-prone pipe replacement for FY 2018, as described in Section 2 of the Plan; (2) the revenue requirement of $3,928,534~~$4,453,652~~ on FY 2018 proposed non-growth ISR capital investment of $101,185,000~~$97,900,000~~, as calculated on Attachment 1S, Page 2, plus the FY 2018 revenue requirement on incremental non-growth ISR capital investment for FY 2012 through FY 2017 totaling $24,908,887~~$25,208,001~~; (3) FY 2018 property tax expenses of $7,699,824~~$7,597,723~~, as shown on Attachment 1S, Page 18, in accordance with the property tax recovery mechanism included in the Amended Settlement Agreement in Docket No. 4323; and (4) prior year adjustments related to the work order write off, discussed in more detail below, in the amount of ($532,674) related to capital investment and ($24,620) related to property tax. Importantly, the incremental capital investment for the FY 2018 ISR revenue requirement excludes capital investment embedded in the base rates in Docket No. 4323 for FYs 2012 through 2014. Incremental non-growth capital investment for this purpose is intended to represent the net

change in net plant for non-growth infrastructure investments during the relevant FY and is defined as capital additions plus cost of removal, less annual depreciation expense ultimately embedded in the Company's base rates (excluding depreciation expense attributable to general plant, which is not eligible for inclusion in the Gas ISR Plan).

For illustration purposes only, Attachment 1S, Page 1, Column (c) provides the FY 2019 revenue requirement for the respective vintage year capital investments. Notably, these amounts will be trued up to actual investment activity after the conclusion of the fiscal year, with rate adjustments for the revenue requirement differences incorporated in future ISR filings.

Additionally, the Company has adjusted prior vintage year revenue requirement calculations to address an adjustment that was recorded in the Company's FY 2016 annual report, in which it wrote off certain work orders that had been charged to plant in FY 2013 through FY 2016 that should have been charged to expense.

Gas Infrastructure Investment

Incremental Capital Investment

As noted above, Attachment 1S, Page 2 calculates the revenue requirement of incremental capital investment associated with the Company's FY 2018 Gas ISR Plan, that is, gas infrastructure investment (net of general plant) incremental to the amounts embedded in the Company's base distribution rates. The proposed capital investment, including cost of removal, was obtained from Table 1 in Section 2 of the Plan. The FY 2018 revenue requirement also includes the incremental capital investment associated with the Company's FY 2012 through FY

2017 ISR Plans, excluding investments reflected in rate base in Docket No. 4323 for FY 2012 through FY 2014.

Attachment 1S, Page 16 calculates the incremental FY 2012 through FY 2014 ISR capital investment and the related incremental cost of removal and incremental retirements for the FY 2018 ISR revenue requirement. The calculations on Page 16 compare ISR-eligible capital investment, cost of removal, and retirements for FY 2012 through FY 2014 to the corresponding amounts reflected in the rate base in Docket No. 4323.

Gas Infrastructure Revenue Requirement

The revenue requirement calculation on incremental gas infrastructure investment for vintage year FY 2018 is shown on Attachment 1S, Page 2. The revenue requirement calculation incorporates the incremental Gas ISR Plan capital investment, cost of removal, and retirements, which are the basis for determining the three components of the revenue requirement: (1) the return on investment (i.e., average 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 Plan rate base. Because depreciation expense is affected by plant retirements, retirements have been deducted from the total allowed capital included in the 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, plant retirements have been estimated based on the percentage of actual retirements to additions during

FY 2016 of 3.53 percent and have been deducted from the total depreciable capital amount as shown on Lines 1 through 3. Incremental book depreciation expense on Line 12 is computed based on the net depreciable additions from Line 3 at the 3.38 percent composite depreciation rate as approved in Docket No. 3943,[10] and as shown on Line 9. 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 7, is combined with the incremental depreciable amount from Line 6 (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 8 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 8 and accumulated depreciation and accumulated deferred tax reserves as shown on Lines 13 and 19, respectively. The deferred tax amount arising from the capital investment, as calculated on Lines 14 through 19, equals the difference between book depreciation and tax depreciation on the capital investment, multiplied by the effective tax rate, net of any tax net operating losses (NOL) and deferred tax proration. The calculation of tax depreciation is described below. The average rate base is shown on Line 24. This amount is multiplied by the pre-tax rate of return approved by the PUC 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. Incremental depreciation expense is

[10] The Company did not change depreciation rates in Docket No. 4323, so the applicable depreciation rate was approved in the Company's prior rate case, Docket No. 3943.

added to this amount on Line 27. The sum of these amounts reflects the annual revenue requirement associated with the capital investment portion of the Plan on Line 29, which is carried forward to Page 1 as part of the total Plan revenue requirement. Similar revenue requirement calculations for the vintage FY 2017, FY 2016, FY 2015, FY 2014, FY 2013, and FY 2012 incremental Plan capital investment are shown on Attachment 1S at Pages 4, 6, 8, 10, 12 and 14, respectively. The work order write off adjustment is reflected in the revenue requirement calculations, on the respective pages noted above, on Line 1a and Line 7a, for vintage FY 2016 and FY 2015 capital investment. This adjustment is also reflected in the incremental capital investment summary at Attachment 1S, Page 16, on Line 1a and Line 4a, for vintage FY 2014 and FY 2013 capital investment. The cumulative revenue requirement reduction of $532,674 as a result of the work order write off adjustment for FY 2013 through FY 2016 on capital investment is reflected on Attachment 1S, Page 1, Line 10a. A summary of the amount of the work order write off adjustments by vintage year, and the year-by-year revenue requirement impact of those adjustments, is provided on Attachment 1S, Page 24. The reduction of $24,620 as a result of the work order write off adjustment on the property tax recovery mechanism is reflected on Attachment 1S, Page 17. The cumulative revenue requirement effect for FY 2013 through FY 2016 on property tax is reflected on Attachment 1S, Page 1, Line 10b. These capital investment revenue requirement and property tax amounts are summarized on Line 11 and have been added to the total O&M expense on Attachment 1S, Page 1, Line 1, and the total property tax recovery on Page 1, Line 10, to derive the total FY 2018 Gas ISR Plan revenue requirement of $36,550,952~~$37,273,083~~, as shown on Page 1, Line 12. This represents a

$10,964,501 ~~$11,686,632~~ increase from the FY 2017 Gas ISR Plan revenue requirement, as shown on Line 13.

Tax Depreciation Calculation

The tax depreciation calculation for FY 2018 is provided on Attachment 1S, Page 3. The tax depreciation amount assumes that a portion of the capital investment, as shown on Line 1, will be eligible for immediate deduction on the Company's fiscal year federal income tax return. The immediate deductibility is referred to as the capital repairs deduction.[11] In addition, plant additions not subject to the capital repairs deduction may be subject to bonus depreciation as shown on Page 3, Lines 4 through 12 for FY 2018. During 2010, Congress passed the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Tax Act), which provided for an extension of bonus depreciation. Specifically, the Tax Act provided 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 31, 2012. The 50 percent bonus depreciation rate was later extended through

[11] In 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 fiscal year 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 Gas ISR Plan.

December 31, 2013 and then extended further through December 31, 2017 via the Protecting Americans from Tax Hikes (PATH) Act. The PATH Act also extended bonus depreciation through 2019 with the rate phasing down to 40 percent in 2018 and 30 percent in 2019. In accordance with the PATH Act, capital investments made from January 2012 through December 2017 are eligible for 50 percent bonus depreciation and capital investments made from January 2018 through March 2018 are eligible for 40 percent depreciation, as shown on Page 3, Lines 9 and 10 for FY 2018.

Finally, the remaining plant additions not deducted as bonus depreciation are then subject to the IRS Modified Accelerated Cost-Recovery System (MACRS) tax depreciation rate. The IRS also clarified its tangible property regulations and, as a result, the Company submitted an election with the IRS pursuant to 26 U.S.C. § 481(a) to apply for a change in accounting method regarding the treatment of gains or losses on asset retirements which are characterized as partial retirements for tax purposes. This election was submitted to the PUC, as required under IRS rules, on December 17, 2015. The late partial disposition election was made to protect the Company's deduction of cost of removal. Otherwise, the Company would have been required to make a § 481(a) adjustment to reverse all historical cost of removal deductions, resulting in a substantial reduction in deferred tax liabilities. Because the Company made the election, cost of removal remains 100 percent deductible. The vintage FY 2015 through FY 2018 tax depreciation calculations in this filing now include an additional tax deduction related to this change in accounting issue.

The total amount of tax depreciation equals the amount of capital repairs deduction plus the bonus depreciation deduction, MACRS depreciation, tax loss on retirements, and cost of removal. These annual total tax depreciation amounts are carried forward to Attachment 1S, Page 2, Line 10, and incorporated in the deferred tax calculation. Similar tax depreciation calculations are provided for FY 2017 through FY 2012 on Attachment 1S, Pages 5, 7, 9, 11, 13 and 15, respectively.

Federal Net Operating Loss

Tax NOLs are generated when the Company has tax deductions on its income tax returns that exceed its taxable income. The tax NOLs do not mean that the Company is suffering losses in its financial statements. Instead, the Company's tax NOLs are the result of the significant tax deductions that have been generated in recent years by the bonus depreciation and capital repairs tax deductions. In addition to first-year bonus tax depreciation, the Internal Revenue Code allows the Company to classify certain costs as repairs expense, which the Company takes as an immediate deduction on its income tax return. However, such costs are recorded as plant investment on the Company's books. These significant bonus depreciation and capital repairs tax deductions have exceeded the amount of taxable income reported in tax returns filed for FY 2009 to FY 2015, with the exception of FY 2011. NOLs are recorded as non-cash assets on the Company's balance sheet and represent a benefit that the Company and customers will receive when the Company is able to realize actual cash savings and applies the NOLs against taxable income in the future. If the Company is able to utilize any of its currently accumulated NOLs in

future tax years, that benefit will flow to customers in the particular fiscal year the benefit is reflected in the Company's federal income tax return.

NOLs are an offset to the Company's accumulated deferred income taxes. Accumulated deferred income taxes, which equal the difference between book depreciation and tax depreciation on ISR capital investment, multiplied by the effective tax rate, are included as a credit or reduction in the calculation of rate base. However, because the Company was not able to fully utilize all of its tax deductions, tax NOLs were recorded to offset a portion of the rate base reduction for accumulated deferred income taxes.

As indicated above, the Company has generated NOLs on its fiscal year tax returns from FY 2009 to FY 2015, with the exception of FY 2011. In addition, the Company ~~will be filing~~ filed its FY 2016 federal income tax return in December 2016, ~~and will~~ which again reflects tax deductions that ~~will~~ exceed taxable income, and which ~~will~~ generates a new NOL~~s~~ for FY 2016. The Company currently estimates that deductions will exceed taxable income in FY 2017 ~~and FY 2018~~, which will generate a NOL~~s~~ for that~~ose~~ year~~s~~. The Company currently estimates that deductions will not exceed taxable income for FY 2018 and, therefore, does not estimate that a NOL will be generated for FY 2018. In previous Gas ISR Plan filings, the Company had not reflected NOLs for any fiscal years for which federal income tax returns had not been filed. The filing of the Company's federal income tax returns in the month of December following the completion of the Company's fiscal year has lagged the filing of each fiscal year's Gas ISR Plan submission by approximately 24 months. This phenomenon had caused the Company to understate its Gas ISR Plan revenue requirements in prior years, resulting in significant increases

to the Company's revenue requirement with the filing of its annual reconciliation of actual Plan investment activity to the investment amounts included in the Gas ISR Plan. The annual reconciliations are filed by August 1 following the completion of each fiscal year, and in recent years also had to be trued up to reflect the impact of NOLs generated in fiscal year tax returns that were not known at the time and were not estimated at the time the Company prepared its Gas ISR Plans for those years. The PUC expressed concern about this phenomenon after the Company filed its FY 2017 Gas ISR Plan in Docket No. 4590. That plan was filed in November 2015 prior to the December 2015 filing of the Company's FY 2015 federal income tax return, in which new NOLs were generated. During the travel of that proceeding, and after the Company's FY 2015 tax return had been filed, the PUC requested that the Company update its FY 2017 Gas ISR Plan revenue requirement to include the FY 2015 NOL since it later became known, and to mitigate the impact of NOLs on the subsequent Gas ISR Plan reconciliation filings. In response to the developments in the FY 2017 Gas ISR Plan filing, and because other elements of the Plan are also based on estimates, the Company is reflecting estimates of NOLs it expects to generate on its FY 2016 federal income tax return, as mentioned above. In addition, the FY 2018 Gas ISR Plan revenue requirement calculation includes an estimate~~s~~ of a NOL~~s~~ the Company is likely to generate in FY 2017, although the Company estimates it will have taxable income in ~~and~~ FY 2018. Actual and estimated NOLs can be found in the each vintage year revenue requirement calculations on Attachment 1S, Pages 2, 4, 6, 8, 10, 12 and 14, respectively. If the Company is able to utilize any of its currently accumulated NOLs in future tax years, the benefit will be flowed through to customers.

Accumulated Deferred Income Tax Proration Adjustment

The Gas ISR Plan includes a proration calculation with respect to the accumulated deferred income tax (ADIT) balance included in rate base. The calculation fulfills requirements set out under IRS Regulation 26 C.F.R. §1.167(l)-1(h)(6). This regulation sets forth normalization requirements for regulated entities so that the benefits of accelerated depreciation are not passed back to customers too quickly. The penalty of a normalization violation is the loss of all federal income tax deductions for accelerated depreciation, including bonus depreciation. Any regulatory filing which includes capital expenditures, book depreciation expense and ADIT related to those capital expenditures must follow the normalization requirements. When the regulatory filing is based on a future period, the deferred tax must be prorated to reflect the period of time that the ADIT balances are in rate base. This filing includes FY 2018 and FY 2019 proration calculations at Page 22 and Page 23, respectively, the effects of which are included in each year's respective revenue requirement.

Property Tax Recovery Adjustment

The Property Tax Recovery Adjustment is set forth on Attachment 1S, Pages 17 through 19. The method used to recover property tax expense under the Gas ISR Plan was modified by the Amended Settlement Agreement in Docket No. 4323. In determining the base on which property tax expense is calculated for purposes of the Plan revenue requirement, the Company includes an amount equal to the base-rate allowance for depreciation expense and depreciation expense on incremental Plan plant additions in the accumulated reserve for depreciation that is deducted from plant-in-service. The Property Tax Recovery Adjustment also includes the

impact of any changes in the Company's effective property tax rates on base-rate embedded property, plus cumulative Plan net additions. Property tax impacts associated with non-Plan plant additions are excluded from the property tax recovery formula. This provision of the Amended Settlement Agreement in Docket No. 4323 took effect for Plan property tax recovery periods subsequent to the end of the rate year in that docket, or January 31, 2014. The FY 2018 revenue requirement includes $7,699,824~~$7,597,723~~ for the net Property Tax Recovery Adjustment, with an additional adjustment of ($24,620) relating to the impact of the work order write off.

Section 4 (Redlined)
Rate Design & Bill Impacts

Section 4

Rate Design and Bill Impacts
FY 2018 Proposal

Rate Design and Bill Impacts
FY 2018 Proposal

Like the revenue requirement, the proposed Gas ISR Plan rate design for FY 2018 is designed to recover incremental capital investment in excess of capital investment that has been reflected in the rate base in the Company's last general rate case in Docket No. 4323, as well as incremental O&M described in Section 2 and the property tax described in Section 3, in accordance with the property tax recovery mechanism included in the Amended Settlement Agreement in Docket No. 4323. For purposes of rate design, the revenue requirement associated with cumulative capital investment and property tax recovery is allocated to rate classes based upon the rate base allocator from the Amended Settlement Agreement in Docket No. 4323. The incremental O&M expense associated with hiring, training, and supervising additional personnel to support an increase in Main Replacement work for FY 2018 has been allocated to all rate classes on a per-unit basis. The throughput for the April 2017 through March 2018 period is from the Company's most recent forecast filed in the Company's Gas Cost Recovery filing in Docket No. 4647. Attachment 1S of this section provides the proposed ISR factors by rate class. Attachment 2S of this section provides the Plan's bill impact[12] associated with the rate design in Attachment 1S by rate class. For the average residential heating customer utilizing 846 therms, the cumulative impact of the Gas ISR Plan will represent an annual increase of $30.74~~$32.88~~, or 2.7~~2.9~~ percent.

[12] Bill impacts are provided using rates approved and currently in effect as of January 1, 2017~~November 1, 2016~~.