

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSON**

IN RE: THE NARRAGANSETT ELECTRIC COMPANY :
d/b/a NATIONAL GRID GAS INFRASTRUCTURE, : **DOCKET NO. 4781**
SAFETY, AND RELIABILITY PLAN FOR FY 2019 :

REPORT AND ORDER

I. Introduction

On December 19, 2017, the Narragansett Electric Company d/b/a National Grid (National Grid or Company) filed its proposed Gas Infrastructure, Safety, and Reliability Plan (Plan or Gas ISR Plan) for FY 2019, pursuant to R.I. Gen. Laws § 39-1-27.7.1.¹ The Gas ISR Plan set forth proposals that the Company identified as necessary to enhance the safety and reliability of its natural gas distribution system. The Gas ISR Plan is designed to protect and improve the gas delivery system through, *inter alia*, proactively replacing leak-prone gas mains and services, accelerating the Company’s replacement of leak-prone facilities, and upgrading the system’s pressure regulating systems.

On February 21, 2018, the Company filed a Revised Gas Infrastructure, Safety, and Reliability Plan for FY 2019 (Revised Gas ISR Plan or Revised Plan). The Revised Plan set forth an updated revenue requirement as a result of the federal Tax Cuts and Jobs Act of 2017, enacted in late 2017. Additionally, the Company removed costs associated with remediation of the site of the former liquified natural gas (LNG) facility in Cumberland, Rhode Island.² The Revised Plan also included prefiled direct testimony from Stephen P. Greco, Director of Pressure Regulation and Liquefied Natural Gas (LNG) and Compressed Natural Gas (CNG) Assets for National Grid

¹ All filings in this docket are available at the PUC offices located at 89 Jefferson Boulevard, Warwick, Rhode Island or at http://www.ripuc.org/eventsactions/docket/4781-NGrid-GasISR-FY2019_12-19-17.pdf.

² See Revised Plan: [http://www.ripuc.org/eventsactions/docket/4781-NGrid-Revised-GasISR-Plan\(2-21-18\).pdf](http://www.ripuc.org/eventsactions/docket/4781-NGrid-Revised-GasISR-Plan(2-21-18).pdf).

U.S.A, Kathleen Sullivan, Director of LNG Operations in Rhode Island, and Pamela D. Bushmich, Director of Income Tax -Massachusetts Jurisdiction, for the National Grid USA Service Company. The Revised Plan resulted in a total revenue requirement decrease of \$1,782,036, \$1,725,331 due to the Tax Cuts & Jobs Act of 2017 and a revenue requirement decrease of \$56,705 related to the Cumberland LNG costs.³

The Revised Plan proposed ISR spending totaling \$106.71 million, including \$40.027 million for non-discretionary capital expenditures, \$66.184 million for discretionary capital expenditures, and \$0.502 million in Operation & Maintenance (O&M) expenses.⁴ A calculation of updated bill impacts for an average customer utilizing 846 therms per year showed an annual increase of \$24.96 or 2.0%.⁵ The annual increase under the Revised Plan was reduced from the figures under the original plan which had proposed a \$30.34 increase, or 2.5%.⁶ The increase was further reduced by a settlement agreement between the Company and the Division that removed \$1.3 million in capital costs incurred in connection the decommissioning of the Cumberland LNG plant, decreasing the revenue requirement by an additional \$182,444.⁷ This adjustment resulted in a revised average annual bill increase of \$24.41, or 2.0%.⁸

On March 7, 2018, the Commission conducted an evidentiary hearing. After hearing all the evidence, the Commissioners granted three motions for protective treatment, unanimously approved the proposed FY 2019 Gas ISR Plan and directed the Company to include additional specific information in the FY 2020 Gas ISR plan.

³ Richer & Bushmich Test. at Bates 156 (FY 2019 Gas ISR Plan Revised) Feb. 21, 2018.

⁴ FY 2019 Gas ISR Revised Plan, Exh. 2S-JBC, Section 2: Gas Capital Investment Plan at 24 (Feb. 21, 2018).

⁵ FY 2019 Gas ISR Revised Plan, Section 4, Attach 2S: Rate Design & Bill Impacts, also see Revised Leary Test. at Bates 172 (Feb. 21, 2018).

⁶ *Id.*

⁷ [http://www.ripuc.org/eventsactions/docket/4781-NGrid-ISR-UpdatedSections\(3-2-18\).pdf](http://www.ripuc.org/eventsactions/docket/4781-NGrid-ISR-UpdatedSections(3-2-18).pdf).

⁸ See Memo of Allen R. Neale at 2; [http://www.ripuc.org/eventsactions/docket/4781-DIV-Neale\(3-2-18\)](http://www.ripuc.org/eventsactions/docket/4781-DIV-Neale(3-2-18))

II. Detailed Description of the Revised Gas ISR Plan

A. Non-Discretionary Work

The Company proposes a total of \$40.03 million for Non-discretionary work in four main work categories: (1) Public works projects; (2) Mandated programs; (3) Damage/Failure Programs; and (4) Special projects.

1. Public Works

The purpose of this program is to address existing gas infrastructure conflicts, as appropriate, in conjunction with municipal reconstruction projects and local water and sewer projects.⁹ The Company has an ongoing plan to replace targeted gas mains on a risk-based approach. The Revised Plan incorporates \$12.44 million in spending for the replacement of approximately ten miles of leak-prone gas main consisting of cast iron and unprotected steel main. The Company estimated that \$1.35 million will be reimbursed under agreement with third parties.¹⁰ The Company also coordinates scheduling with various municipalities for other system improvement work, such as the replacement of leak-prone pipe, system reliability upgrades, elimination of redundant mains, and regulator station upgrades.¹¹ The Division supported the Company's Revised Plan for public works projects.

2. Mandated Programs

Spending for Mandated Programs falls into the following seven categories: Corrosion; Purchase Meter Replacement; Pipeline Integrity Programs; Main Replacement Reactive – Cast Iron Joint Encapsulation; Reactive Service Replacement (Leaks); Reactive Service Replacement (Non-leak /Other); and Reactive Main Replacement Maintenance.¹²

⁹ FY 2019 Gas ISR Plan-Revised at Bates 19, 112 (February 21, 2018).

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.* at Bates 21, 113. The Cross Bore Remediation Program was eliminated from the Gas ISR for FY 2019.

The Corrosion program serves to extend the life of buried steel cable facilities by twenty years or more, ensuring proper coating by establishing proper conditions on pipe segments through installation of rectifiers, anodes, insulators, and test stations.¹³ Federal law requires cathodic protection of all new buried steel gas facilities. The program also includes control line work at existing regulator stations and cathodic protection upgrades. For FY 2019, the Company proposes to spend \$1.14 million which aligns costs with prior experience.¹⁴ The Purchase Meter Replacement program does exactly what its title says, pays for the replacement of aging/outdated gas meters. In FY 2019, the Company proposed to replace 21,151 meters, representing 7.7% of the existing meter population in Rhode Island, at a cost of \$4.37 million.¹⁵ The Pipeline Integrity Program is for the testing, modification, and/or replacement of the Company's higher pressure facilities and pipelines. In FY 2019, the Plan proposed \$.25 million in expenditures to include engineering and design work for testing and or replacement of sections of pipe under the program.¹⁶

The Main Replacement Reactive Cast Iron Joint Encapsulation program sought to provide funding for the leak sealing of cast iron bell joints at a cost of \$4.01 million for FY 2019.¹⁷ The Reactive Service Replacement Leaks program proposed an expenditure of \$7.15 million to repair or replace leaking gas services.¹⁸ The Reactive Service Replacement Non-Leak program, which represents the capital costs for service relocations, meter protection service abandonments, and the installation of curb valves, especially for locations where Company personnel have encountered difficulty in gaining access to meters, listed a FY 2019 expenditure proposal of \$2.33 million.¹⁹

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.* at Bates 22, 114.

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.*

The Reactive Main Replacement Maintenance program contemplates emergency main replacements or modifications due to leaks or other unplanned events where main conditions dictate immediate replacement and/or gas facilities are subject to water intrusion or exposure and require remediation. In recent years, the Company's requests for work in this category has been minimal due to the increased Proactive Main Replacement program. The FY 2019 budget for this work was proposed at \$.67 million, a slight decrease from FY 2018's budget of \$.75 million.²⁰ In sum, these mandated categories total \$19.92 million.²¹

3. Damage Failure Program

The Company proposed a budget of \$0.25 million for funding safety and reliability projects associated with remediation of damage or failure occurrences, initiated in response to events outside the Company's control.²²

4. Special Projects

Special Projects are those that are unforeseen or unexpected and that are necessary for the safety and reliability of the Company's gas distribution system and which are usually considered one-time projects. For FY 2019, the Company identified four such projects, all of which it deemed essential, with a total expenditure of \$8.77 million. They are: (1) The Northern Gas Expansion Project; (2) The Southern Gas Expansion Project; (3) The Allens Avenue Main Replacement; and (4) The Veterans Memorial Main Replacement.²³ The Company sought \$0.75 million each for the southern and northern Rhode Island expansion projects, to fund study and engineering costs, to address forecasted capacity constraints and associated reliability problems. For southern Rhode Island, current projections suggested that 3,750 customers could see below minimum pressures

²⁰ *Id.* at Bates 23, 115.

²¹ *Id.*

²² *Id.*

²³ *Id.* at Bates 24-28, 116-121.

and would be at risk of losing gas service by the winter of 2022-23. Existing and proposed commercial customers in and around Quonset Point require additional capacity.²⁴ Northern Rhode Island is experiencing supply shortfalls as a result of the decommissioning of the failed Cumberland LNG tank, representing a loss of 30,000 decatherms per day. To compensate, the Company secured an incremental 24,000 decatherms per day from the Tennessee Gas Pipeline Co, LLC, delivered to the Company's citygate in Lincoln, Rhode Island, and an additional 6,000 decatherms per day via portable LNG at the site of the former Cumberland LNG plant. While the portable LNG is an effective short-term temporary solution, a permanent solution is needed.²⁵

The Allens Avenue Main Replacement project consist of replacement of approximately 1,600 feet of existing 1940s vintage twelve-inch and sixteen-inch steel mains, due to the discovery of girth weld integrity issues and corrosion in the vault located at the Allens Avenue river crossing. The Company determined that the nature of these problems required replacement of the mains for safety and reliability.²⁶ The expected completion date for this project was the summer of 2018, at a projected cost of \$4.74 million.²⁷

The Veterans Memorial Main Replacement project was required to replace approximately 1,200 feet of existing 1950s vintage twelve-inch and sixteen-inch steel main located within an easement on property owned by Chevron Corp. Under the terms of an easement established in 1952, Chevron reserved the right to require the Company to relocate the pipeline, should Chevron, in its sole capacity, determine that the pipeline interfered with Chevron's use of the property. Chevron exercised its rights under the easement and the Company concurred that land use conflicts existed and that the pipeline is at risk of safety and reliability problems from construction activities

²⁴ *Id.* at Bates 24, 117.

²⁵ *Id.* at Bates 25, 117.

²⁶ *Id.* at Bates 26, 118.

²⁷ *Id.* at Bates 27, 119.

on the site. The project will also address corrosion issues that have been identified in the vault at the Veterans Memorial river crossing.²⁸ The proposed cost for this project, with an expected completion date of December 2018, was \$2.53 million.

B. Discretionary Programs

In FY 2019, the Company proposed to spend a total of \$66.18 million for discretionary work, broken down into categories of Proactive Main Replacement, Proactive Service Replacement, and Gas System Reliability.

1. Proactive Main Replacement

The Company proposed to continue its program of replacing leak-prone gas mains by spending \$52.80 million for slightly less than fifty miles of leak prone gas mains and 3,826 service relay, inserts, or tie-ins.²⁹ This program consists of abandonment of cast iron mains and unprotected steel main with a diameter less than sixteen inches.³⁰ The cost of this program has increased in recent years due to the greater number of cast iron mains being replaced. Moreover, cast iron mains are typically located in urban areas with higher customer density and greater underground congestion.³¹

2. Gas System Reliability

The Company's Gas System Reliability Plan included thirteen programs to address system automation, valve installation/replacement, take stations, pressure regulation, heating, LNG facilities, gas network reliability and resiliency, replacement pipe in bridges,³² access protection

²⁸ *Id.* at Bates 28, 120.

²⁹ *Id.* at Bates 28, 121.

³⁰ *Id.* at Bates 29, 121. The Company is suspending replacement work on mains greater than sixteen inches for the FY 19 year, but plans to resume in FY20.

³¹ *Id.* at 29, 122.

³² The replacement pipe in bridges and access protection remediation programs are both new in the FY 2019 Gas ISR Plan.

remediation, capital tools, and equipment.³³ The Revised FY 2019 Gas ISR Plan contained a total of \$13.38 million in spending for Gas System Reliability.³⁴

The Company proposed to fund the Gas System Control program at \$.0.50 million to address telemetry upgrade and meter reading platform upgrades.³⁵ Under this program, the Company will replace 3G telemetry with new 4G devices and will convert approximately 700 meters from MV90 to Metretek, which will result in a single platform for gas metering.³⁶ For FY 19, the Company budgeted \$0.16 million for the Valve Installation/Replacement program to replace inoperable valves, ensuring the Company's continued ability to isolate portions of the distribution system, thus avoiding broader shutdowns.³⁷ Spending for the System Automation is targeted at \$1.03 million for FY 2019. This program is intended to meet federal Department of Transportation requirements for pipeline safety by maintaining 195 gas pressure regulator stations disbursed throughout the Company's Rhode Island gas service territory. The Company's proposal would provide AC power, telemetry, and/or remote control to approximately forty sites.³⁸

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. In FY 2018, the Company spent \$0.20 million for preliminary work on replacement of heaters at its Cranston gate station. The Company planned to spend \$0.80 million for engineering and construction work on the project during FY 2019.³⁹

The FY 2019 spending projection for the ongoing Pressure Regulating Facilities program was \$2.67 million, to replace regulators at two East Providence facility sites and one in Johnston.

³³ FY 2019 Gas ISR Plan-Revised at Bates 30, 123.

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.* at Bates 31, 123.

³⁷ *Id.* at Bates 32, 124.

³⁸ *Id.* at Bates 33, 125.

³⁹ *Id.*

The plan included enhancements in response to regulator 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.⁴⁰ These projects follow all applicable state and federal codes to help ensure safe and continuous supply of natural gas to the Company's customers.

The Allens Avenue Multi-Station Rebuild 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 2019, the Company proposed level-funding of \$2.97 million for this project.⁴¹ Spending was also planned in the amount of \$1.0 million in the Take Station Refurbishment program to install remote operated valves at three stations, for design costs for future station construction and pre-work on a station abandonment.⁴²

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 2019, the Company proposed to spend approximately \$1.47 million for four projects in its Gas Planning program. Two of the projects will assist in eliminating single-feed systems (including the replacement of .2 miles of leak prone pipe) and two will address the relocation of two flood-prone regulator stations.⁴³

⁴⁰ *Id.* at 33, 126.

⁴¹ *Id.* at Bates 34, 127.

⁴² *Id.*

⁴³ *Id.* at Bates 35, 127.

The Instrumentation & Regulation Reactive Program was established to address capital projects. Projects may include: instrumentation replacement due to failure; replacement of obsolete/unreliable equipment, such as regulators, pilots, boilers, heat exchangers, odorant equipment, station valves; and necessary replacement of building roofs or doors. The Company proposed spending \$1.20 million for FY 2019.⁴⁴

The LNG Blanket program addresses capital project requirements for the Company's plant in Exeter. The Company proposed to spend \$0.50 million for the replacement of a boil-off compressor, permitting the retirement of two obsolete units and leaving the plant with two new compressors. The \$.45 million remainder of the funds was associated with the blanket program for the Exeter LNG plant which is aligned with historical experience for the facility.⁴⁵ The Company proposed two new programs for FY 2019: (1) Pipe Replacement on Bridges for \$0.10 million and; (2) Access Protection Remediation for \$0.10 million. The Access Protection Remediation program is designed to reduce the risk of public injury by restricting and/or deterring access to the Company's elevated gas facilities.⁴⁶ The Company proposed a budget of \$0.43 million in the Capital Tools & Equipment program.⁴⁷ Some of the tools and equipment to be purchased are jackhammers, tampers, manhole covers, hydraulic squeeze offs, fusion cutters, electric sweepers, and pyrometers.⁴⁸

The Company represented that as of December 31, 2016, approximately 1,186 miles, or 37%, of the 3,193 miles in the Company's gas distribution system in Rhode Island is made up of leak-prone pipe. The 1,186 miles of leak-prone pipe comprise 416 miles of unprotected steel and

⁴⁴ *Id.* at Bates 35, 128.

⁴⁵ *Id.* at Bates 36, 128.

⁴⁶ *Id.* at Bates 36, 128-129.

⁴⁷ *Id.* at Bates 36, 129.

⁴⁸ *See* Company's response to COMM 2-24.

770 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 18 years.⁴⁹

III. Summary of Prefiled Testimony

The Company presented the testimony of John B. Currie, Jurisdictional Lead for gas issues in Rhode Island, to describe the FY 2019 Gas ISR Plan, which was attached to his testimony as Exhibit JBC-1. Mr. Currie explained the purpose of the Plan, as well as the extent of the proposed capital investments, including non-discretionary and discretionary spending, and special projects.

In the initial filing, Mr. William R. Richer testified that the Company's revenue requirement for the FY 2019 Gas ISR Plan was \$45,776,892, an incremental \$9,225,940 over the amount billed for the Gas 2018 ISR Plan. The revenue requirement consisted of the following elements: (1) \$502,000 of incremental O&M expense for the hiring, training, and supervision of additional personnel to support the increase in leak-prone pipe replacement for FY 2019; (2) a revenue requirement of \$4,159,401 comprised of the Company's return, taxes, and depreciation expense associated with FY 2019 proposed non-growth ISR capital investment in gas utility infrastructure; and (3) FY 2019 property tax expense of \$9,546,263.⁵⁰ As amended by the February 21, 2018 Revised Plan, however, the cumulative revenue requirement was revised downwards to \$43,994,856, which is an incremental \$7,443,904 over the amount billed under the FY 2018 Gas ISR Plan.⁵¹

Ms. Ann Leary provided prefiled testimony regarding rate-design, ISR factors, and bill impacts to customers. She described the rate design methodology in detail and testified that the

⁴⁹ FY 2019 Gas ISR Plan-Revised at Bates 37, 130 (Feb. 21, 2018).

⁵⁰ FY 2019 Gas ISR Plan at Bates 103 (Dec. 19, 2017).

⁵¹ FY 2019 Gas ISR Plan-Revised, Section 3, Attach. 1S at 1 (Bates page 55) (Feb. 21, 2018)

starting point for developing the rate-design for capital investment was the rate base allocator in Docket No. 4323, as well as incremental O&M expense and property tax expense.⁵² She stated that the Company allocated the proposed incremental O&M expense of \$502,000 to all rate classes volumetrically and proposed to assess all rate classes the same per-unit factor.⁵³ Ms. Leary explained that the rate base allocator used to calculate the revenue requirement to the Residential Non Heating class is no longer representative of the number of customers receiving service on these rate classes. This is due to recent transfers of Residential Non Heating customers to the Residential Heating rate classes.⁵⁴ Therefore, the Company proposed to change one ISR capital factor by combining the allocated revenue requirement of Residential Non-Heating and Residential Heating rate classes.⁵⁵ Combining the revenue requirements of the Residential Heating and Residential Non Heating customers results in one single ISR capital factor of \$0.1569 per therm, applicable to all residential customers. She explained that if the residential classes were not combined, the Residential Non-Heating ISR factor would be \$0.4400 per therm or 140 percent higher than the capital component of the FY2018 factor and would result in a total bill increase of thirteen percent.⁵⁶ In the original filing, for the average residential heating customer using 846 therms annually, the ISR factors would result in an annual bill increase of \$30.34 or 2.5%.⁵⁷ In the Revised Plan, the impact to the average residential heating customer was further adjusted downward to \$24.96 or 2.0%.⁵⁸ And the final plan revision, filed on March 2, 2018, resulted in a further downward adjustment to \$24.41.⁵⁹

⁵² FY 2019 Gas ISR Plan at Bates 109 (Dec. 19, 2017).

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.* at Bates 110.

⁵⁶ *Id.* at Bates 111.

⁵⁷ *Id.* at Bates 112.

⁵⁸ Revised FY 2019 Gas ISR Plan, Section 4: Rate Design & Bill Impacts, Exhibit 2S at Bates 151.

⁵⁹ Neale Memo at 2 (Mar. 2, 2018).

IV. The Division of Public Utilities and Carriers

Division consultant Bruce R. Oliver reviewed the proposed rates and agreed with the Company that the rate base allocator from the Amended Settlement Agreement in Docket No. 4323 was no longer representative of the number of customers receiving service in that class and that to use the allocator from that Docket would result in a very large increase for Residential Non Heating customers vis-a-vis the FY 2018 rate.⁶⁰ Although Mr. Oliver agreed that the residential classes should be combined for the FY 2019 Gas ISR, he did not agree that this solution was appropriate for the long term. He opined that the usage characteristics, cost responsibilities, and rates of return for the Company's Residential Heating and Residential Non-Heating classes are not uniform, so they do not provide an appropriate basis for long term consolidation of those classes for ISR rate purposes.⁶¹ Mr. Oliver also suggested that a permanent solution to this issue be explored within the Company's pending rate case, Docket No. 4770.⁶²

Division consultant David Efron reviewed the revenue requirement for the Revised ISR Plan in light of the federal Tax Cuts and Job Act, signed into law on December 19, 2017, the same day that the original FY 2019 Gas ISR Plan was filed. Mr. Efron noted that the reduction in the Company's federal income tax rate from thirty-five percent to twenty-one percent was partially offset by the elimination of bonus depreciation and slower accumulation of deferred income taxes as a result of the lower tax rate.⁶³ Mr. Efron opined that the revenue requirement associated with the FY 2019 Revised Gas ISR Plan was reasonably calculated, subject to the future reconciliation of the FY 2019 Plan revenue requirements.⁶⁴

⁶⁰ [http://www.ripuc.org/eventsactions/docket/4781-DIV-Oliver\(2-28-18\).pdf](http://www.ripuc.org/eventsactions/docket/4781-DIV-Oliver(2-28-18).pdf).

⁶¹ *Id.* at 2.

⁶² *Id.*

⁶³ Efron Memo at 1 (Mar. 1, 2018); http://www.ripuc.org/eventsactions/docket/4781_EfronRevised.pdf.

⁶⁴ *Id.*

Allen R. Neale, another Division consultant, provided a memorandum, discussing the revised revenue requirement in light of a settlement between the Division and the Company, removing \$1.3 million from the Plan, representing capital costs expended in 2017 and 2018 for the decommissioning of the Cumberland LNG tank.⁶⁵ As a result of that settlement, the updated schedules depicted a reduction in the fiscal year rate adjustment to \$7,261,460, thus lowering the fiscal year revenue requirement to \$43,812,412. The removal of the Cumberland LNG capital costs also resulted in a reduction of the revenue requirement by \$182,444.⁶⁶

Mr. Neale stated that he began his review of the proposed FY 2019 Gas ISR Plan by reviewing the Company's Distribution Integrity Management Plan (DIMP) required by the federal Pipeline and Hazardous Materials Safety Administration (PHMSA).⁶⁷ Mr. Neale said that the DIMP should be considered a living document with implementation changes in response to gas system conditions. Because the PHMSA regulations do not require specific changes to utility capital investment, operations, or maintenance practices, he conducted an independent analysis of pipe inventory and leak repair data submitted to PHMSA. According to Mr. Neale, this analysis showed recent trends in data that would be consistent with a program that is working towards reducing system main-related leak risk.⁶⁸ Mr. Neale also reviewed the Company's 2016 System Integrity Report which provided analysis of system leak performance and a window into the results of the ongoing capital investment and O&M programs. According to the System Integrity Report, the Company is showing a downward trend in overall Type 1 leaks repaired,⁶⁹ which can be reasonably associated with accelerated pipe replacements under the Company's ongoing ISR

⁶⁵ Neale Memo. at 1; http://www.ripuc.org/eventsactions/docket/4781_Neale.pdf.

⁶⁶ *Id.*

⁶⁷ *Id.* at 5.

⁶⁸ *Id.* at 6.

⁶⁹ Type 1 leaks must be repaired immediately.

Plans.⁷⁰ Mr. Neale noted that simply replacing pipe will not have as strong an influence on the leak rate as targeting poorly performing pipes for replacement. Therefore, Mr. Neale explored, under a non-disclosure agreement, how the Company selects pipes for replacement. Mr. Neale had no criticism for the Company's use of its proprietary algorithm and suggested only that should leak trends deteriorate, the Company should take steps to change its analytical methods accordingly.⁷¹

In addition to reviewing the plans for replacement of leak-prone pipes, Mr. Neale also reviewed the Company's proposals regarding the special projects planned for Allens Avenue and Veterans Memorial. After some discussions the Company had agreed to back out \$204,100 of costs associated with the Allens Avenue project that related to proposed LNG facilities, so that the total costs for the Allens Avenue project were reduced to \$4.7 million.⁷² Mr. Neale had requested that the Company provide information concerning individual costs for several years, commencing even before the ISRs began. However, the Company indicated that it did not record the information in a manner that would be responsive to the inquiry. As a result, the Company had agreed to explore separating out the service from main costs on replacement projects on a go-forward basis.⁷³ In conclusion, Mr. Neale found that the capital investment proposed by the FY 2019 Gas ISR Plan was reasonable and recommended approval.⁷⁴

V. Hearing

At the March 7, 2018 hearing, National Grid presented testimony of John B. Currie, William R. Richer, Pamela D. Bushmich, and Ann E. Leary, all of whom adopted their original

⁷⁰ Neale Memo at 7.

⁷¹ *Id.* at 8.

⁷² *Id.* at 9.

⁷³ *Id.* at 10.

⁷⁴ *Id.*

and supplemental prefiled testimony and exhibits under oath. Mr. Currie explained that the main driver of increased costs in the ISR is the cost of main replacement. The Company increased the amount of cast iron main replacement because sixty-five percent of leaks come from cast iron pipes.⁷⁵ Cast iron pipes are typically more expensive to replace, due to their location in congested city streets.⁷⁶ The Company's annual target for main replacement is sixty-five miles. Mr. Currie indicated that the Company spends roughly \$1.2 million per mile to replace mains, a cost which is comparable to costs incurred by Colonial Gas, but well below what the Company pays through its Boston Gas affiliate company.⁷⁷

Mr. Currie confirmed that gas leaks are assigned a grade number of one, two, or three. Grade one leaks are the most serious and require immediate repair. Grade two leaks are considered non-hazardous, but may become hazardous. The Company seeks to repair grade two leaks within twelve months of occurrence. Grade three leaks are considered non-hazardous and reasonably expected to remain non-hazardous. The status of grade three leaks is monitored annually and re-graded, if required.⁷⁸ Mr. Currie explained that cold weather can cause spikes in the number of leaks. Leaks in January 2018 increased 107% over January 2017. The Company has a twenty-year plan to replace all leak-prone pipes which is scheduled to be completed in 2034.⁷⁹

The Division presented its consultant, Allan R. Neale, who recommended approval of the 2019 Gas ISR Revised Plan. He noted that the Company's plan has in fact reduced risks and resulted in a leak rate that is trending downward.⁸⁰ In responding to an inquiry on whether there is some type of metric to score risk reduction, Mr. Neale explained that there is not really a metric

⁷⁵ Hr'g. Tr. at 49.

⁷⁶ Mr. Currie confirmed that the Company has fifteen miles of pre-1900 pipes, out of a total of inventory of 3,200 miles of pipes.

⁷⁷ Hr'g. Tr. at 56.

⁷⁸ *Id.* at 63.

⁷⁹ *Id.* at 96.

⁸⁰ *Id.* at 75,77.

and that quantifying risk is very difficult.⁸¹ However, he noted that Company utilizes a confidential, propriety network analysis tool and system matter experts to score risks.⁸² Mr. Neale expressed confidence in the Company's approach in Rhode Island, which he says is comparable to work done in Baltimore, Chicago, and Massachusetts. He stated that the Company's System Integrity Report does a great job and that these kinds of reports are not standard operating procedure across the country.⁸³ Mr. Neale referred to the System Integrity Report, to highlight the fact that the total number of leaks are trending downward and that by decreasing leaks, risks are decreased.⁸⁴ Mr. Neale also explained that in many other locations across the country, when grade one and two leaks are down, grade three leaks tend to increase, but that it not happening in Rhode Island. He found this to be an indication that the overall health of the Company's infrastructure in Rhode Island is less risky.⁸⁵ Finally, Mr. Neale commented that the company's risk ranking tool, combined with the Company's efforts to coordinate leak repair with municipalities, demonstrates that the Company is doing a reasonably good job and that it has put together a program that is showing a trend downward in leaks.⁸⁶

VI. Commission's Findings

Upon conclusion of the hearing, the Commission voted unanimously to approve the Company's 2019 Gas ISR plan and granted the Company's motions for protective treatment of confidential information contained in the Plan. The Commission further ordered the Company to include an introductory section in future ISR plans, summarizing the history of the ISR and

⁸¹ *Id.* at 78.

⁸² *Id.* at 79, 80.

⁸³ *Id.* at 81.

⁸⁴ *Id.* at 76.

⁸⁵ *Id.*

⁸⁶ *Id.* at 92.

explaining how the ISR is contributing to safety and reliability. The Commission also directed that each ISR filing shall be accompanied by a copy of the latest System Integrity Report.

Accordingly, it is hereby

(23339) ORDERED:

1. The Narragansett Electric Company d/b/a National Grid's proposed FY 2019 Revised Gas Infrastructure, Safety, and Reliability Plan and associated compliance tariffs are hereby approved for usage on and after April 1, 2018.
2. The Narragansett Electric Company d/b/a National Grid's motions for protective treatment are hereby granted.
3. The Narragansett Electric Company d/b/a National Grid shall include in all future Gas Infrastructure, Safety, and Reliability Plans a section describing the history and effectiveness of the Plan.
4. For all future Gas Infrastructure, Safety, and Reliability Plan filings, The Narragansett Electric Company d/b/a National Grid shall include a copy of the latest System Integrity Report.

EFFECTIVE APRIL 1, 2018, IN WARWICK, RHODE ISLAND, PURSUANT TO AN OPEN MEETING DECISION ON MARCH 7, 2018. WRITTEN ORDER ISSUED NOVEMBER 21, 2018.

PUBLIC UTILITIES COMMISSION



Margaret E. Curran

Margaret E. Curran, Chairperson

Marion Gold

Marion Gold, Commissioner

Abigail Anthony

Abigail Anthony, Commissioner

NOTICE OF RIGHT OF APPEAL

Pursuant to R.I. Gen. Laws §39-5-1, any person aggrieved by a decision or order of the PUC may, within seven (7) days from the date of the order, petition the Rhode Island Supreme Court for a Writ of Certiorari to review the legality and reasonableness of the decision of order.