

**STATE OF RHODE ISLAND
PUBLIC UTILITIES COMMISSON**

IN RE: THE NARRAGANSETT ELECTRIC COMPANY :
d/b/a NATIONAL GRID GAS INFRASTRUCTURE, : **DOCKET NO. 4996**
SAFETY, AND RELIABILITY PLAN FOR FY 2021 :

REPORT AND ORDER

I. Introduction

On December 20, 2019, 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 2021, with the Public Utilities Commission (PUC or Commission) 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 was 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. The 2018 System Integrity Report was included as part of the Plan, as directed by the Commission in Docket 4719, the 2019 Gas ISR.²

The Plan included prefiled testimony from four employees of the National Grid USA Service Company, Inc.: Amy Smith, Director, New England Jurisdiction; Lee Greshham, Lead Analyst in Regulatory and Customer Strategy; Ryan Scheib, Analyst in the New England Gas Pricing Group, and Melissa A. Little, Director, New England Revenue Requirements.

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.ri.gov/eventsactions/docket/4996page.html>.

² Docket 4719, Order (Nov. 21, 2018); [http://www.ripuc.org/eventsactions/docket/4781-NGrid-Ord23339%20\(11-21-18\).pdf](http://www.ripuc.org/eventsactions/docket/4781-NGrid-Ord23339%20(11-21-18).pdf).

The original Plan proposed ISR spending totaling \$199.61 million, including \$39.30 million for non-discretionary capital expenditures, and \$144.79 million for discretionary capital expenditures, including \$40.46 million for the Southern Rhode Island Gas Expansion Project and \$13.01 million for incremental curb to curb paving costs.³ A calculation of bill impacts for an average residential customer utilizing 845 therms per year showed an annual increase of \$44.08 or 3.7%.⁴

On January 31, 2020, the Company filed a revised Section 3 of the Plan which reflected an increased revenue requirement, due to the Company's recently filed tax return. The Company also withdrew its proposal for a heat decarbonization program, together with attendant funding. The revised bill impact showed an annual increase of \$46.08 or 3.8%.⁵

The Division of Public Utilities and Carriers (Division) presented prefiled testimony from Rodney Walker, its gas operations consultant, and Alberico Mancini, Assistant Chief Accountant. The Division recommended approval of the Company's Plan, with two recommendations: (1) that the Company develop and maintain a comprehensive inventory of aging leak prone mains; and (2) that the Company develop a proactive service replacement program in addition to its isolated service program.⁶

On February 27, 2020 the Commission conducted an evidentiary hearing. At an Open Meeting held on March 17, 2020, the PUC granted the Company's motions for protective treatment and unanimously approved the proposed FY 2021 Gas ISR Plan.

³ Test. of Amy Smith at 9; [http://www.ripuc.ri.gov/eventsactions/docket/4996-NGrid-GasISR-FY2021-Book%20of%20\(12-20-19\).pdf](http://www.ripuc.ri.gov/eventsactions/docket/4996-NGrid-GasISR-FY2021-Book%20of%20(12-20-19).pdf); FY 2021 Gas ISR Plan, Section 2, Gas Capital Investment Plan at 2 (Dec. 20, 2019).

⁴ Test. of Ryan Scheib at 4; FY 2021 Gas ISR Plan, Section 4, Rate Design & Bill Impacts, Attach 2 at 1.

⁵ [http://www.ripuc.ri.gov/eventsactions/docket/4996-NGrid-Motion%201-31-20\).pdf](http://www.ripuc.ri.gov/eventsactions/docket/4996-NGrid-Motion%201-31-20).pdf).

⁶ Test. of Rodney Walker at 10-11; <http://www.ripuc.ri.gov/eventsactions/docket/4996-DIV-Walker%202-4-20.pdf>.

II. Detailed Description of the 2021 Gas ISR Plan

A. Non-Discretionary Work

The Company proposed a total of \$39.30 million for Non-Discretionary work in three main work categories: (1) Public works projects; (2) Mandated programs; and (3) Damage/Failure Programs.

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.⁷ The Company has an ongoing plan to replace targeted gas mains on a risk-based approach. The Plan incorporated \$18.77 million in spending for the replacement of approximately thirteen miles of leak-prone gas main consisting of cast iron and unprotected steel main. The Company estimated that \$1.40 million will be reimbursed under agreement with third parties.⁸

The estimated costs under the public works investments do not include any incremental costs associated with compliance with the new Rhode Island paving law or compliance with the new law requiring professional engineer stamps on plans.⁹ 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.¹⁰ The Company manages a five-year work planning process to provide flexibility in scheduling, coordinating and engineering projects, recognizing that municipal schedules and plans can change due to funding, political demands and maintenance issues.¹¹

⁷ FY 2021 Gas ISR Plan, Section 2 at 6 (Dec. 20, 2019).

⁸ FY 2021 Gas ISR Plan Section 2 at 7 (Dec. 20, 2019).

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

2. Mandated Programs

Spending for Mandated Programs for the 2021 Gas ISR Plan proposed a total of \$21.68 million in the following six categories: (a) Corrosion; (b) Purchase Meter Replacement; (c) Reactive Leaks; (d) Reactive Service Replacement- Non-leak/Other, and (e) Reactive Main Replacement- Maintenance; and (f) Transmission Station Integrity, a new program in 2021.

a. Corrosion

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.¹² 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 2021, the Company proposed to spend \$1.17 million which aligns costs with prior experience.¹³

b. Purchase Meter Replacement

The Purchase Meter Replacement program does exactly what its title says, pays for the replacement of aging/outdated gas meters. For FY 2021, the Company proposed to replace 22,000 meters, representing 7.8% of the existing meter population in Rhode Island, at a cost of \$4.85 million.¹⁴

c. Reactive Leaks

The Reactive Leaks category provides funding for the leak sealing of cast iron bell joints discovered during proactive leak surveys, public odor calls or other activities. Additionally, this

¹² *Id.* at 8.

¹³ *Id.*

¹⁴ *Id.* at 9.

category covers remediating leaking gas services through insertion, replacement, or abandonment of the services. The Company has proposed to spend \$12.28 million in this category.¹⁵

d. Reactive Service Replacement/Non Leak

The Reactive Service Replacement Non-Leak/Other program included an FY 2021 expenditure proposal of \$2.10 million in 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.¹⁶

e. Reactive Main Replacement/Maintenance

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 2021 budget for this work was proposed at \$0.68 million.¹⁷

f. Transmission Station Integrity (*New Program*)

The primary purpose of the Transmission Station Integrity Program is to meet Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) code requirements issued on October 1, 2019, which will be effective on July 1, 2020. In FY 2021, the Company proposed to spend \$0.61 million for project development, engineering and procuring materials, to ensure that transmission stations are safe, reliable and fit for service.¹⁸

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.* at 10.

¹⁸ *Id.*

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.¹⁹

B. Discretionary Programs

For FY 2021, the Company proposed to spend a total of \$144.78 million for discretionary work, broken down into four major categories: (1) Proactive Main Replacement; (2) Proactive Service Replacement (3) Gas System Reliability; and (4) The Southern Rhode Island Gas Expansion Project.

1. Proactive Main Replacement

Under Proactive Main Replacement, there are three programs: (a) Proactive Main Replacement <16-inch; (b) Proactive Large Diameter Program > 16 inch; and (c) Proactive Atwells Avenue Main Replacement. The Company proposed continuing its program of replacing leak-prone gas mains by spending \$67.73 million for 49 miles of leak-prone gas mains and 3,387 service relay, inserts, or tie-ins.²⁰ This program consists of the installation of 42.3 miles and the abandonment of approximately 47.4 miles of cast iron mains and unprotected steel main with a diameter less than sixteen inches.²¹ The average installation cost per mile in rural locations is estimated to increase from \$0.86 million in FY 2020 to \$0.97 million in FY 21. The average installation cost per mile in suburban locations is estimated to increase from \$1.13 million in FY 2020 to \$1.24 million in FY 21. The average installation cost per mile in urban locations is

¹⁹ *Id.* at 11.

²⁰ *Id.* at 11-12.

²¹ *Id.* at 12.

estimated to decrease from \$1.83 million in FY 2020 to \$1.77 million in FY 21 due to the size pipe to be installed.²²

The overall cost of this program has increased in recent years due to the greater number of cast iron mains being replaced. These mains are predominant on low and intermediate pressure systems consisting of larger mains. Moreover, cast iron mains are typically located in urban areas with higher customer density and greater underground congestion.²³ In FY 2021, the Company increased the cast iron abandonment percentage to sixty-one percent of the total leak-prone pipe inventory, which is a one percent increase from FY 2020.

a. Proactive Main Replacement (≤16-inch),

For the Proactive Main Replacement (≤16-inch), the Company proposed spending of \$59.25 million.²⁴

b. Proactive Large Diameter (≥ 16 inch) Replacement

The Company also operates approximately thirty-seven miles of large diameter (≥ 16 inch) leak-prone gas mains which the Company rehabilitates through a sealing and lining program. For 2021, the Company proposed to spend \$3.40 million to line 2,600 feet of 16 inch or greater cast-iron main and to seal 2,500 feet of 16 inch cast-iron main. All these mains are in the City of Providence. The Company averred that lining and sealing are cost-effective alternatives for remediating large diameter leak-prone pipe, with an added benefit of less impact to customers and communities.²⁵

²² *Id.*

²³ *Id.* at 13.

²⁴ *Id.* at 14.

²⁵ *Id.*

c. Proactive Main Replacement- Atwells Avenue

During the winter of 2017-18, a twelve-inch low-pressure cast iron main on Atwells Avenue in Providence experienced four breaks. The Company has determined that it is necessary to abandon in excess of one mile of cast iron main and replace with 5,505 feet of high-density polyethylene plastic pipe between FY 2020 and FY 2022.²⁶ This project has been broken out into four segments, with two of those segments budgeted for \$5.08 million in FY 2021. Future work is anticipated through FY 2022. The total eventual cost of the project is estimated at \$11.63 million.²⁷

2. Proactive Service Replacement Program

The Company has implemented the PUC's order from Docket No. 4916, which mandated the replacement of 100 isolated leak prone services per year for seven years. The projected cost for this year's program is \$0.35 million, not including paving costs, tracked elsewhere in this docket.

3. Gas System Reliability

The Company's Gas System Reliability Plan included fourteen programs to address gas control system automation, valve installation/replacement, take stations, pressure regulation, heating, LNG facilities, gas network reliability and resiliency, replacement pipe on bridges, access protection remediation, distribution station over pressure protection, capital tools, and equipment.²⁸ The FY 2021 Gas ISR Plan contained a total of \$36.25 million in spending for Gas System Reliability, not including any incremental costs associated with compliance with the new paving statute, or the new P.E. Stamp requirements.²⁹ Of the \$36.25 million budget, \$20.66

²⁶ *Id.* at 15.

²⁷ *Id.*

²⁸ *Id.* at 16.

²⁹ *Id.*

million are costs specifically related to ensuring the resiliency of the Company's gas distribution system.³⁰

a. Gas System Control

The Company proposed spending \$0.12 million to purchase, design and implement a real-time system modeled simulator for training of new gas control operators. Federal regulations require pipeline operators to incorporate the use of table-top or simulator-based technology in the training of Gas System Operators. This system will replace the paper-based table-top system currently in use. The simulators allow Gas System Operators to recognize, react and determine the correctness of their actions in real time to optimize gas system performance and to prevent real life emergency situations from occurring.³¹

b. Valve Installation/Replacement

For FY 2021, the Company budgeted \$0.68 million for the Valve Installation/Replacement program to replace inoperable valves, and for new valve installations. New valves are occasionally necessary to provide the capability to reduce the size of an isolation area where the existing valves would result in broader shutdown than desired. The budget, which is substantially larger than in previous years, would appropriate \$0.50 million for valves in Newport and Middletown, to support resiliency.³²

c. System Automation

Spending for the System Automation is targeted at \$1.25 million for FY 2021. This program is intended to meet federal Department of Transportation requirements for pipeline safety by maintaining 196 gas pressure regulator stations disbursed throughout the Company's Rhode

³⁰ *Id.*

³¹ *Id.* at 18.

³² *Id.*

Island gas service territory. 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 lines. The Company's FY 2021 proposal would provide AC power, telemetry, and/or remote control to approximately twenty-five sites.³³

d. 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. In FY 2018, the Company spent \$0.20 million for preliminary work on replacement of heaters at its Cranston gate station and in FY 2019 budgeted \$0.80 million for engineering and construction work. Construction of the new heaters was planned for FY 2020 at a cost of \$1.25 million, but was deferred, in part, due to higher than anticipated contractor bids. The Company projected construction spending in FY 2021 at \$2.96 million.³⁴

e. Pressure Regulating Facilities

The Company's Pressure Regulating Facilities program was designed to reliably control gas distribution system pressures and maintain continuity of supply during normal and critical gas demand periods. Each regulator station has specific flow and pressure requirements, based on the anticipated needs of the station. The Company's proposed FY2021 spending for the Pressure Regulating Facilities program is \$7.85 million, for regulator work at eight locations: East Providence, Providence, Newport, Pawtucket, Warwick, West Warwick, Newport, and Middletown.³⁵ The Company also planned to install a second bypass valve at nine stations to

³³ *Id.* at 19.

³⁴ *Id.* at 19-20.

³⁵ *Id.* at 20-21.

prevent failure of a single bypass valve resulting in over-pressurization, with seven of those stations located in Middletown and Newport.³⁶

f. Allens Avenue Multi-Station Rebuild Project

The Allens Avenue Multi-Station Rebuild Project is a multi-year project designed to replace or retire eight 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. Four of the existing stations that feed the 99 pounds per square inch gauge (psig) distribution system will be replaced by and consolidated into a new single station. Three additional regulator stations feeding the system at other pressures will be relocated off-property. The new on-site facilities are designed with storm hardening protections to ensure safe and continued operations in the event of adverse weather impacts and flooding. For FY 2021, the Company proposed spending \$6.20 million to relocate and commission three of the regulator stations and complete additional piping.³⁷

g. Take Station Refurbishments

The Company planned \$1.0 million in spending for the Take Station Refurbishment program to install a third layer of over-pressure protection with remote capability at multiple stations, design costs for future station construction, and control line replacement work. The remote operated valves will be installed at high pressure connection points and will support the ability to shorten response time in the event of a major gas release.³⁸

³⁶ *Id.* at 20-21.

³⁷ *Id.* at 21-22.

³⁸ *Id.* at 22.

h. 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 2021, the Company proposed to spend approximately \$2.37 million which includes funding for the initial phase of a multi-year project designed to eliminate a single feed system and engineering costs to address enhancements to the Cumberland Take Station on Scott Road. Funding is also included for project closeout costs for the Wood at Woodlawn regulator station in Bristol, which is being completed to move a regulator station out of a flood plain area.³⁹

i. Instrumentation & Regulation Reactive Program

The Instrumentation & Regulation Reactive Program was established to address capital projects over and above the Pressure Regulation capital budget. 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 \$1.39 million for FY 2021.⁴⁰

j. LNG

The LNG program addresses specific and blanket capital project requirements to support the Company's LNG operations. Of the total \$6.43 million requested for FY 2021, the Company has ear-marked \$5.42 million for projects at the Exeter, Rhode Island LNG facility, including the purchase of and preparation for the installation of two new boil-off compressors which will replace compressors that were commissioned in the 1970s. Also included in this program is \$0.25 funding

³⁹ *Id.* at 22-23.

⁴⁰ *Id.* at 23.

for engineering and infrastructure costs associated with peak shaving requirements for Aquidneck Island, and \$0.20 million for a Cumberland LNG Tank replacement feasibility study.⁴¹

j. Replacement pipe on bridges

The Rhode Island Department of Transportation is planning to either repair or replace the Goat Island bridge in Newport in FY 2022. Therefore, the Company proposed spending \$1.50 million for project planning, engineering, and long-lead materials for the resulting main replacement on the bridge.⁴²

k. Access Protection Remediation

This program is designed to reduce the risk of public injury by restricting and/or deterring public access to the Company's elevated gas facilities. The Company planned spending \$0.26 million for this program in FY2021.⁴³

l. Capital Tools and Equipment

The Company proposed a budget of \$0.60 million in the Capital Tools & Equipment program.⁴⁴ These tools and equipment are required to support the performance of work required in the Gas ISR Plan, and to provide for the safety and reliability of the gas distribution system.

m. Distribution Station Over-Pressure Protection

The Distribution Over-Pressure Protection program is new in this year's ISR Plan and has been implemented to address risks for over-pressurization incidents as pressure regulating facilities throughout the system. The Company requested \$3.64 million in spending. Actions planned include work to relocate and provide additional protections for regular sensing and control lines to protect from third-party damage, installation of additional control equipment to ensure safe and

⁴¹ *Id* at 24.

⁴² *Id.* at 24-25.

⁴³ *Id.* at 25.

⁴⁴ *Id.*

reliable regulator operation in the event of control line damage, and installation of new relief valves on the system to ensure that potential abnormal operating conditions at regulator stations do not result in over-pressurization scenarios.⁴⁵

4. Southern Rhode Island Gas Expansion Project

In FY 2020, the PUC approved the Company's Southern Rhode Island Gas Expansion Project to increase gas distribution capacity in the Southern Rhode Island service territory by installing approximately five miles of new 20-inch steel distribution main parallel to the existing 12-inch distribution main located beneath R.I. Route 2 through the City of Warwick, the Town of West Warwick, and the Town of East Greenwich. This project was included in the FY2020 Gas ISR Plan, Docket No. 4916.⁴⁶

Construction for the project began in FY 2020. The Company's original estimate of the project's total cost has risen from \$109.98 million to \$125.53 million and the time for completion has been extended through 2024. Of this increase, \$3.54 million is for incremental curb-to-curb paving and costs associated with RIDOT's new concrete base restoration guidelines. The construction estimates presented are based upon a completed design and an 80% level of confidence based on identified risks and future unknown risks. Estimates for FY 22 and FY 23 are preliminary and will be updated in the FY 22 Gas ISR Plan. In FY 2021, the Company projected spending of \$41.36 million for the installation of 2.1 miles of gas main, which includes incremental paving costs of \$2.57 million, \$0.73 million related to regulator stations, and \$0.98 million to complete the final portion of material testing required to increase maximum operating pressure for 5.2 miles of existing main in Cranston and West Warwick.⁴⁷

⁴⁵ *Id.* at 23-24.

⁴⁶ FY 2020 Gas ISR Plan <http://www.ripuc.ri.gov/eventsactions/docket/4916page.html>.

⁴⁷ FY 2021 Gas ISR Plan, Section 2 at 28-29.

III. Summary of National Grid's Prefiled Testimony⁴⁸

The Company presented the testimony of Amy Smith, Jurisdictional Lead for gas issues in Rhode Island, to describe the FY 2021 Gas ISR Plan. Ms. Smith extensively 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. She provided a detailed update on the progress of the Southern Rhode Island Gas Expansion Plan approved in FY 2020.

Ms. Melissa Little testified that the Company's revenue requirement for the FY 2021 Gas ISR Plan of \$22,354,740⁴⁹ was an incremental increase of \$15,880,020 over existing rates. The revenue requirement consisted of the following elements: (1) the revenue requirement of \$7,636,309 comprised of the Company's return, taxes, and depreciation expense associated with FY 2021 proposed non-growth ISR capital investment in gas utility infrastructure; (2) the FY 2021 revenue requirement on incremental non-growth ISR capital investment for FY 2018 through FY 2020 totaling \$9,007,264; (3) operation and maintenance costs associated with heat decarbonization⁵⁰; and FY 2021 property tax expense of \$4,711,167.⁵¹

On January 31, 2020, after having filed its federal tax return, the Company filed its Revised Revenue Requirement of \$22,761,529, which represents a \$406,789 increase from the original FY 2021 revenue requirement.

Mr. Scheib sponsored Section 4 of the FY 2021 Gas ISR Plan. His testimony discussed the calculation of the proposed FY 2021 Gas ISR factors and the customer bill impacts of the

⁴⁸ Mr. Lee Gresham's testimony, which concerned the heat carbonization plan, is omitted, because the Company amended its plan to delete this program.

⁴⁹ As originally filed, prior to the January 2020 amendment.

⁵⁰ These funds were later removed in the Amended Plan because the Company deleted its heat carbonization proposal.

⁵¹ FY2021 Gas ISR Plan, Direct Test of Melissa Little at 3 (Dec.20, 2019).

proposed factors. Mr. Scheib explained that the proposed rate design was based on the revenue requirement of incremental capital investment over that which was reflected in rate base in the Company's most recent general rate case in Docket No. 4770, utilizing the rate base allocator approved in the Amended Settlement in Docket No. 4770.⁵² In the original filing, for the average residential heating customer using 845 therms annually, the ISR factors would result in an annual bill increase of \$44.08 or 3.7%.⁵³ The Amended Plan, filed on January 31, 2020, resulted in an increased revenue requirement of \$406,789. In turn, this caused an upward adjustment in the average bill impact to \$46.08, or 3.8%.⁵⁴

IV. Summary of the Division of Public Utilities and Carriers' Prefiled Testimony

Division consultant Rod Walker, a natural gas operations consultant, addressed the ISR Plan evaluation process and provided analysis of the elements of the proposed plan.⁵⁵ He described the ISR filing as a collaborative process between the Company and the Division, with multiple written and oral communications and site visits. Additionally, he reviewed the Company's responses to the Division's prefiled data requests.⁵⁶ Mr. Walker also provided a very helpful review of the Company's progress of compliance with the Commission's order No. 23521 in Docket No. 4916, the FY2020 Gas ISR Plan. He found that the Company had either fully complied with the order, or that the Division was continuing its review of the Company's compliance.

Mr. Walker explained that Rhode Island's natural gas distribution system is one of the oldest systems in the United States, with some of the infrastructure installed over one hundred years ago. The types of leak-prone pipe in the system include cast iron, wrought iron, unprotected

⁵² FY2021 Gas ISR Plan, Direct Test. of Ryan M. Scheib at 2. (Dec. 20, 2019).

⁵³ *Id.* at 4.

⁵⁴ FY 2021, Revised Section 4, Attachment 2R, Page 1 of 5, Line 10.

⁵⁵ Direct Test. Rod Walker (Feb. 4, 2020); <http://www.ripuc.ri.gov/eventsactions/docket/4996-DIV-Walker%202-4-20.pdf>.

steel, Aldyl-A, and polybutylene plastic pipe. He contended that although the Company has done an admirable job in reducing leak-prone pipes, the system still has one of the largest collections of leak-prone infrastructure nationwide, with 1,086 miles of cast iron and unprotected bare steel mains and 41,982 unprotected bare steel and copper services. He expressed concerns that the inventory of Grade 1 leaks (most hazardous), leak backlog and cast-iron break rates have increased according to the data provided by the Company in its 2018 System Integrity Report.⁵⁷

Mr. Walker concluded his testimony with two recommendations for the Commission's consideration: (1) The Company should develop and maintain a comprehensive inventory of aging leak prone mains.; and (2) The Company should develop a proactive service replacement program in addition to its Isolated Service replacement program.

On February 11, 2020, Division Chief Accountant, John Bell, filed a memorandum and opined that the revenue requirement and the associated ISR factor for the FY 2021 Gas ISR Plan were reasonably calculated and accurate.⁵⁸

V. Hearing

At the February 27, 2020 hearing, National Grid presented testimony of Amy Smith, Ryan Scheib, and Melissa Little, all of whom adopted their original and supplemental prefiled testimony and exhibits under oath.⁵⁹

On cross-examination, Ms. Smith confirmed that the Company planned to include the replacement of copper services will be added to the isolated service replacement program ordered by the Commission in the FY 2020 Gas ISR Plan, Docket No. 4916.⁶⁰ She noted that replacement

⁵⁷ Walker Test. at 4.

⁵⁸ Bell Memo; <http://www.ripuc.ri.gov/eventsactions/docket/4996-DIV-RevenueRequirement-Memo%202-11-20.pdf>.

⁵⁹ Hr'g Tr. at 13; Ms. Smith made two very minor corrections to charts presented at Bates page 105 of the Plan.

⁶⁰ Hr'g Tr. at 20.

of these copper services would be prioritized, based on risk within the replacement program. She explained that the Company would try to adhere to the seven-year schedule ordered in Docket No. 4916 and would work with the Division if the Company determined that it might need an additional year to complete the replacement program.⁶¹ Ms. Smith indicated that the Company planned to work with the Division to risk rank the 42,000 bare steel services and to create a plan for replacement.⁶²

Ms. Smith further testified that the Company was assessing its ability to increase the number miles of replacement pipes it plans to install in FY 22 through FY 25 from sixty-five to seventy.⁶³ She explained that the Company was projecting about \$13 million in incremental paving costs this year, as a result of new statutory requirements for curb-to-curb paving. She noted at the time of the hearing, there were thirteen communities that had adopted more extensive paving requirements, but expected that more communities would do so.

Ms. Smith also discussed estimated incremental costs that the Company expected to incur to implement a statute that requires a professional engineer to review, sign off, and stamp plans that for any work that could potentially result in a risk to the gas system. She indicated that the Company had five engineers on staff with the appropriate professional requirements, but that the Company would expand these ranks by hiring more employees, training existing employees, and supplementing with independent contractor professional engineers. She acknowledged that this new statutory requirement was likely a direct result of an accident that occurred in Merrimack Valley, MA. Ms. Smith noted that this requirement has been adopted in other parts of the country

⁶¹ *Id.* at 21.

⁶² *Id.* at 23.

⁶³ *Id.* at 39.

due to the National Transportation Safety Board's investigation in the Merrimack Valley incident.⁶⁴

Ms. Smith explained that the Company's estimate for the Atwell's Avenue project had increased significantly, from \$7 million to \$11 million over the Company's estimates provided in Docket No. 4916 for two reasons: (1) the Company used a model for standard main replacement when creating this estimate, when in hindsight, it should have used its complex estimating analysis; and (2) the daytime hours in which the Company would be permitted to undertake the work were far less than what was estimated.⁶⁵ The Commission expressed concern over the Company's failure to model this project correctly and the Company agreed that it needed to do better in the future.⁶⁶

In discussing the Company's System Integrity Report, Ms. Smith described the leak survey program. She said that the Company performs a "walking survey" every three years wherein gas employees physically walk up and down every street that has a gas main, up and down front lawns, and up to buildings, searching for evidence of natural gas. The Company also performs an annual mobile survey throughout the entire service territory with a vehicle that is equipped to detect gas odor. Additionally, the Company performs leak surveillance which is a re-check of any open leaks in the system, to see whether the leak continues or if its grade has been changed.⁶⁷

Ms. Smith stated that while there are occasional upticks in leak numbers, usually related to construction issues or weather patterns, overall leaks are down significantly from when the Company first commenced the ISR program. She explained that in years where there is more freezing and thawing, there will be higher numbers of leaks, especially in cast iron mains. She

⁶⁴ *Id.* at 62-63.

⁶⁵ Nighttime work hours are more expensive.

⁶⁶ Hr'g. Tr. at 71.

⁶⁷ *Id.* at 83.

further advised that annual reporting within the three-year leak survey may be focused on an area that has a far greater number of cast iron pipes. Therefore, it is not to be unexpected to see a rise in overall leak receipts when surveying geographical areas with a greater concentration of cast-iron pipes.⁶⁸ She averred that unless there is an upward trend after the course of two of the three-year cycles, then there is not cause for concern. She noted that the longer that a gas main remains in the ground, the more likely it is that there will be a leak at some point.⁶⁹

Ms. Smith also explained a substantial increase in the costs of the Southern Rhode Island gas expansion project of \$11.1 million dollars. She explained that when the Company began excavation, it discovered a significantly greater amount of ledge than was revealed by original test hole borings or mapping. In addition, the project required far greater dewatering than modeled. As a result, the Company's revised estimates have now assumed similar greater amounts of ledge associated with the rest of the project. Construction on the project continued through the winter of 2019-20 and is slightly ahead of schedule.⁷⁰

Ms. Smith also addressed the Company's year to year increase in the meter replacement program, from \$3.4 million to \$4.8 million. She stated the Company completed fewer meter replacements in the prior year because of site access problems with customers. So, in FY2021, the Company proposed some catch up work, in addition to an expansion of the program.⁷¹

Ms. Smith confirmed the Company's commitment to work with the Division to develop an overall plan to replace the 42,000 bare steel services with due consideration to leak risk factors. She acknowledged that the baseline objective is to eventually replace all these services. The preferred approach would be to replace the services at the time a main is replaced. However, if

⁶⁸ *Id.* at 87.

⁶⁹ *Id.* at 88.

⁷⁰ *Id.* at 96.

⁷¹ *Id.* at 98.

the Company determined that there was a risk with waiting for main replacement, the service would be added to the isolated service program and replace it prior to replacing the main.⁷² She agreed that all 42,000 services will eventually be replaced, in one of three timeframes: (1) wait for main replacement and replace service when the gas main is replaced; (2) replace the service before the main replacement; or (3) change the scheduling of the main replacement and replace the main and service at the same time.⁷³

Ms. Smith also testified that this winter, the Company had a portable LNG site located at Old Mill Lane in Portsmouth, Rhode Island on standby, and ready for operations if low pressure conditions were anticipated.⁷⁴ The Company's FY2021 plan included engineering costs for site improvements.

The Company also presented Pradheep Kileti who explained that with the roll-out of the Company's Gas Business Enablement technology in the coming year, the Company expected to produce a list of aging leak-prone pipes. Mr. Kileti explained that the new software will assess inherent risks on pipes that may cause leaks. Presently, engineers will only do a risk assessment of a pipe if there has been a leak.⁷⁵ Mr. Kileti confirmed that most of the leaks are caused by failures in cast iron joint.⁷⁶ He also confirmed that the Company's System Integrity Report only reports leaks – their types and severity- not other risk factors.⁷⁷

The Division presented its consultant, Rod Walker, and Alberico Mancini.⁷⁸ On December 11, 2019, the Division issued a Notice of Concern to the Company concerning copper services.

⁷² *Id.* at 118.

⁷³ *Id.* at 120, 123.

⁷⁴ *Id.* at 124.

⁷⁵ *Id.* at 57.

⁷⁶ *Id.* at 92.

⁷⁷ *Id.* at 136.

⁷⁸ *Id.* at 146, 147; Mr. Walker made a minor correction to his prefiled testimony and Mr. Mancini adopted the prefiled testimony of John Bell, Chief Accountant for the Division.

Mr. Walker testified that the Company's agreement to address these services satisfactorily addressed the Division's concerns.⁷⁹ Mr. Walker addressed Ms. Smith's testimony regarding the replacement of the 42,000 bare steel services. He opined that the riskiest mains left in the ground are the cast iron mains, with a higher leak rate. Therefore, he felt it made sense to look at the services separately to make sure risk ranking will effectively address the worst offenders of both services and mains.⁸⁰

Mr. Mancini testified that the Division recommended approval of the FY2021 Gas ISR Plan as being just and reasonable and in the best interest of ratepayers.⁸¹

VI. Commission's Findings

At an Open Meeting held on March 17, 2020 the Commission voted unanimously to approve the Company's FY 2021 Gas ISR plan and granted the Company's motions for protective treatment of confidential information contained in the Plan.

Accordingly, it is hereby

(23880) ORDERED:

1. The Narragansett Electric Company d/b/a National Grid's proposed FY 2021 Revised Gas Infrastructure, Safety, and Reliability Plan and associated compliance tariffs are hereby approved for usage on and after April 1, 2020.
2. The Narragansett Electric Company d/b/a National Grid's motions for protective treatment are hereby granted.
3. The Company shall develop and maintain a comprehensive inventory of aging leak prone pipes.

⁷⁹ Hr'g. Tr. at 148-149.

⁸⁰ *Id.* at 150.

⁸¹ *Id.* at 152.

4. The Company shall develop and propose for the FY 2022, a proactive service replacement program for its 42,000 bare steel and copper services.
5. The Company shall prepare to present at a technical session in July 2020. The Company should be prepared to discuss and demonstrate the methodology for assessing the reduction of risk resulting from its replacement efforts.
6. The Company shall continue to provide the Division with its Excel spreadsheets associated with each future Gas ISR filing, as part of its annual filing requirement.
7. The Company shall continue to provide the Division with cost information and data of such sufficient detail to satisfy the Division as to the reasonableness of the cost estimates of the various components of the Southern RI Gas Expansion Project and to update the Division on these costs on a regular basis throughout the project, at no less than ninety-day intervals.

EFFECTIVE APRIL 1, 2020, IN WARWICK, RHODE ISLAND, PURSUANT TO AN OPEN MEETING DECISION ON MARCH 17, 2020. WRITTEN ORDER ISSUED AUGUST 19, 2020.

PUBLIC UTILITIES COMMISSION

Margaret E. Curran, Chairperson*



Marion S. Gold, Commissioner



Abigail Anthony, Commissioner

*Chairperson Curran participated in the decision but was unavailable for signature.

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.