Robert J. Humm
Senior Counsel

March 4, 2019

VIA HAND DELIVERY & ELECTRONIC MAIL

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

RE: Docket 4916 - National Grid's Proposed FY 2020 Gas Infrastructure, Safety, and Reliability Plan
Responses to PUC Data Requests – Set 4

Dear Ms. Massaro:

Enclosed please find 10 copies of National Grid's[1] responses to the Rhode Island Public Utilities Commission's (PUC) Fourth Set of Data Requests in the above-referenced matter.

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

Enclosures

cc: Docket 4916 Service List
Christy Hetherington, Esq.
Al Mancini, Division
John Bell, Division
Rod Walker, Division

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

280 Melrose Street, Providence, RI 02907
T: 401-784-7415 ■ robert.humm@nationalgrid.com ■ www.nationalgrid.com

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.

Joanne M. Scanlon

March 4, 2019
Date

Docket No. 4916 - National Grid's FY 2020 Gas Infrastructure, Safety and Reliability (ISR) Plan - Service List 2/5/2019

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PUC 4-1

Request:

How do the proposed meter replacements fit into plans for advanced meter functionality and digitization of the energy system?

Response:

The Purchase Meter Replacement program includes the purchase of gas meters to replenish meter stocks that are depleted as a result of the retirement of existing meters. Typical reasons for retirement include reductions to the aged inventory of meters or meter failure, which are associated normally with damaged or inaccurate meters. In Fiscal Year (FY) 2020, the Company is proposing to spend $3.40 million to purchase 16,289 meters. The total amount of FY 2020 mandated meter purchases to support testing requirements and Customer Meter Services is 16,289. These meters will include a gas communication module that is compatible with advanced metering functionality. Implementation of a gas advanced metering program will be initiated in conjunction with electric. The timing of the gas implementation is expected to occur over a 15-year period that is aligned with the residential meter change and testing requirements.

Prepared by or under the supervision of: John B. Currie

PUC 4-2

Request:

Does the Company conduct regular inspections in order to identify leaks? If so, please describe the process. If not, why not?

Response:

Yes, the Company conducts regular periodic leakage surveys of its pipeline systems in accordance with the Company's Leakage Survey Policy CNST02001-RI, a copy of which is provided as Attachment PUC 4-2-1. Survey types and frequencies are set forth in Section 5.2 of the policy. Attachment PUC 4-2-2 is a copy of the Company's Winter Leak Operations Work Method CNST02004, which provides for enhanced surveillance of workable leaks and cast-iron patrols during periods when the Company's Winter Leak Operations Plan is in effect.

Leakage Survey Policy CNST02001 - Rhode Island

1. Purpose

This policy describes the requirements for periodic, re-check and post repair leakage surveys (surveys) on Company pipeline systems.

- This document covers general requirements for performing leakage surveys, on the distribution and transmission facilities within the company systems as well as the methods, scope and frequency of those surveys.

2. Responsibilities

Maintain and Construct, or designee, shall be responsible to:

- Serve as the lead organization for this policy document.
- Maintain the content, administer, and implement this policy document.
- Perform walking and/or mobile leakage surveys as assigned.
- Schedule leak surveys based on appropriate criteria
- Complete all required paperwork and / or data collection associated with leakage surveys performed
- Provide reporting of leak survey results as required

Customer Meter Service, or designee, shall be responsible to:

- Perform walking and/or mobile leakage surveys as assigned.
- Complete all required paperwork and / or data collection associated with the leakage surveys performed by CMS.

Support Services, or designee, shall be responsible to:

- Update National Grid's mapping system to indicate the location of business districts.
- Update records database for maintenance of leakage survey records.
- Update GIS System(s) for any objects or data used for leak survey (e.g., maps, extracts, other).

The Quality Assurance/Quality Control organization shall be responsible to:

- Perform random inspections of the leakage survey process to ensure all leak survey personnel are adequately trained and/or performing the survey in compliance with National Grid work methods and procedures.

3. Personal & Process Safety

All required PPE shall be worn and utilized in accordance with the current National Grid Safety Policy. See General Safety Requirements[SHE01001]

4. Operator Qualification Required Tasks [Qualified or Directed & Observed]

- Task 6 - Inspecting for atmospheric corrosion
- Task 8 - Visually inspecting for internal corrosion
- Task 18 - Conducting gas leakage surveys

- Task 19 - Patrolling and inspecting pipelines
- Task 20 - Investigating leak/odor complaints
- Task 70 - Properties of natural gas and abnormal operating conditions

5. Content

5.1. General

1) Surveys shall only be conducted by qualified persons using appropriate and calibrated leak detection equipment.
2) Surveys shall be performed using flame ionization (FI) leak detector equipment, or the equivalent; however, other industry-accepted leak detector technologies may be employed.
3) Factors which may require an increase in the frequency of a survey include the age and type of pipe, leak and corrosion history, proximity of the pipe to buildings, construction and blasting activity, and ground frost.
4) The service leakage survey will be conducted using leakage detection equipment from the edge of road to the front of the structure. The foundation wall facing the street will be checked along its entire length up to and including the meter set. If structures are located on corner lots, it will be required that both sides of the structure facing each street be checked.

5.2. Survey Types and Frequency

a. Business Districts

1) Areas designated as business districts shall be surveyed at least annually, not to exceed 15 months from the prior annual survey.
2) Leak detection equipment shall be used in a manner that the presence of gas leaking through cracks in pavement and sidewalks, or the accumulation of gas within manholes would be detected.
3) Where cast-iron pipe is prevalent within a Business District, refer to CNST02004 Winter Leak Operations.
4) Inspections shall be attempted for all jurisdictional pipelines installed within customers' premises up to the outlet of customer meters.

b. Non-Business Districts

1) Areas of the Company's system outside of Business Districts with cathodically unprotected distribution lines shall be leakage surveyed at least once every three (3) calendar years at intervals not exceeding 39 months.
2) In Non-Business District areas under full cathodic protection, or fully installed with plastic pipe, leakage surveys shall be conducted at least once every five (5) calendar years at intervals not exceeding 63 months.
3) Where cast-iron pipe is prevalent within a Non- Business District, refer to CNST02004 Winter Leak Operations.

4) Non-Business District leakage surveys of mains and services may be performed through any combination of mobile and walking survey methods.
5) Inspections shall be attempted for all jurisdictional pipelines installed within customers' premises up to the outlet of customer meters.

c. Transmission Pipelines
   1) Transmission lines shall be surveyed at least once each calendar year at intervals not exceeding 15 months.
      i. Surveys of Transmission Lines may be performed through any combination of mobile and walking survey methods.
   2) Transmission lines shall be patrolled per the requirements of CNST02005, Patrolling Transmission Pipelines.

d. Available Opening Inspection
   1) A walking leakage survey shall be conducted in business districts using a combustible gas indicator to check for gas concentration at intervals not exceeding 15 months, but at least once each calendar year.
      i. It is intended that all available openings on the road and sidewalk surface in which gas could accumulate or escape into the atmosphere from an underground source will be covered in this survey.
      ii. This would include gas, electric, telephone, sewer and water valve boxes, manholes, pavement cracks, edges of buildings and pavement and storm drains, vent poles, and at other locations where it would be reasonable to expect a gas leak to be found.

e. Special Survey - Hospitals and Schools
   1) At least once each calendar year, the Company-owned, exposed, inside and outside gas piping, including any meters and regulators, for designated Schools and Hospitals (S & H) as agreed to with the PUC listing provided shall be:
      i. Leakage surveyed with a portable Flame Ionization unit (FIU), Combustible Gas Indicator (CGI) or Company approved equivalent device.
      ii. Visually inspected for physical condition, including any readily accessible service entrance for an inside meter set.
   2) A file will be maintained by Leak Survey documenting all Leak Surveyed / Inspected locations that were CGI.
      i. The file including the addresses of Schools and Hospitals should be updated annually under the direction of the Manager Support Services utilizing records made available by government agencies or private sources and provided to the PUC annually by Support Service for confirmation prior to commencing (usually April) this survey for that season.
   3) Refer to Gas Work Method CNST02022 Special Survey Program Rhode Island for field instruction

5.3. Classified Leaks

a. All leaks shall be classified. Each leak should have,
   1) Pre-repair surveillance,
   2) A repair schedule, and
   3) Post repair surveillance, conducted in a manner consistent with its leak classification.

b. Refer to CM4 Leak Classification Chart, CM6 Distribution System Leak Classification and RIOM 6202 Handling of Classified Gas Leaks

5.4. Records

a. The Company shall retain records of leakage surveys for a period of time not less than the interim between the two most current successive surveys.

b. Transmission line survey records shall be maintained for 5 years or until the next survey, whichever is longer.

c. Survey records include but are not limited to:
   1) Maps of survey area
   2) Field reports
   3) Leak Survey Database

6. Knowledge Base & References (Click here)

Knowledge Base		References
1 - Compliance History	5 - Job Aid	1 - Regulatory – Codes
2 - Data Capture	6 - Learning & Development	2 - Technical Documents
3 - Definitions	7 - Standard Drawings	3 - Tools Catalog
4 - Document History	8 - Tools & Equipment	

7. Attachments

None

nationalgrid	Gas Work Method **Leak Control**	Doc. # CNST02004 Page 1 of 3
	Winter Leak Operations	Revision 3.0 – 11/15/15

Winter Leak Operations CNST02004

1. Purpose

The purpose of this document is to describe the Enhanced Surveillance of workable leaks and Cast Iron Patrols associated with the Winter Leak Operations Plan

2. Responsibilities

This Gas Work Method shall be reviewed annually with operations personnel responsible for its implementation.

Maintenance and Construction shall be responsible to:

- Serve as the lead organization for this Gas Work Method.
- Execute the Winter Leak Operation Plan.
- Ensure that trained personnel are utilized in the performance of the Winter Leak Operations Plan.
- Document execution of the Winter Leak Operations Plan.

Support Services shall be responsible to:

- Create maps of the Cast Iron System, each year in November.

3. Personal & Process Safety

Exercise caution, when bar holing, to avoid striking a main or service while investigating a leak. Approximate the location of the main or service by looking for valve boxes, service risers, meters, mark outs or other markings. Probe approximately 18” on either side (perpendicular distance) from the expected location.

4. Operator Qualification Required Tasks [Qualified or Directed & Observed]

- Task 18 - Conducting gas leakage surveys
- Task 19 – Patrolling & Inspecting Pipelines
- Task 20 - Investigating leak/odor complaints
- Task 70 - Properties of natural gas and abnormal operating conditions

5. Instructions

	Scope of the Winter Leak Operations Plan
	The Winter Leak Operations Plan shall include:
	• An Enhanced Surveillance of Type 2A and Type 2 Leaks: o Existing Type 2A and Type 2 leaks shall be scheduled for surveillance to be completed within 7 days of initiation of the Winter Leak Operations Plan. o Leaks shall be reclassified based on the newly obtained leak readings under frost

conditions
- o **Leaks shall not be downgraded** based on accelerated surveillance findings during the Winter Leak Operations Plan period.
- o Type 2A leaks shall be scheduled for surveillance on a 7 day cycle
- o Type 2 leaks shall be scheduled for surveillance on a 30 day cycle

- A Patrol of the Cast Iron System
  - o All cast iron distribution mains shall be patrolled at a frequency on average of 14 days/cycle however not to exceed 20 days/cycle unless approved by the operating area executive.

Extraordinary winter conditions may delay cycle time / completion. If a delay is anticipated, conditions related to the delay shall be documented and approved by the area Operating Executive.

  - o The above patrol shall be performed with a detailed map to ensure successful completion of all scheduled cast iron main segments based on the criteria set forth in this document.
  - o If the patrol was not completed in one day or patrol is worked by more than one person, the completed portion of the cast iron main segments patrolled shall be recorded on the map. The patrol inspector shall date and initial the completed portion of the inspection on the map.

The Cast Iron Winter Patrol shall consist of a mobile survey using vehicle mounted leak detection equipment. During this patrol, the vehicle travels along the route of the cast iron system at speeds, consistent with the manufacturer's recommendation for patrols of this type, and not to exceed 15 MPH depending on equipment manufacturer.

Triggers to Implement the Winter Leak Operations Plan

Enhanced Surveillance shall be implemented when the "*7 day frost degree days*" are below 27F, based on the average daily temperature, averaged over 7 consecutive days. Use the attached spreadsheet for calculation. See Attachment 1 for Sample Spreadsheet and hyperlink to document.

The area Construct & Maintain Director or designated alternate(s) shall maintain data necessary to justify implementation of the Plan.

The Winter Leak Operations **Cast Iron Patrol** shall be implemented regionally in either late December or the first week in January (based on the specific region's winter atmospheric temperatures and associated cast iron break history).

The regional operations Vice President may implement the plan earlier, in December, due to unusually cold temperatures and increased cast iron breaks

Leaks discovered shall be handled in accordance with National Grid's Emergency Response procedures.

	Suspension of the Winter Leak Operations Plan
	The Winter Leak Operations Cast Iron Patrol shall continue through March (based on the specific region's temperature and cast iron break history)
	Consideration of suspending Enhanced Surveillance Operations shall be based on no frost in the ground and where the company published average daily temperature forecast is above 32 degrees Fahrenheit for seven consecutive days in that region.
⚠	The **Director of Operations** shall consult with the **Regional Vice President of Operations** and obtain **approval** prior to **suspending** Surveillance.

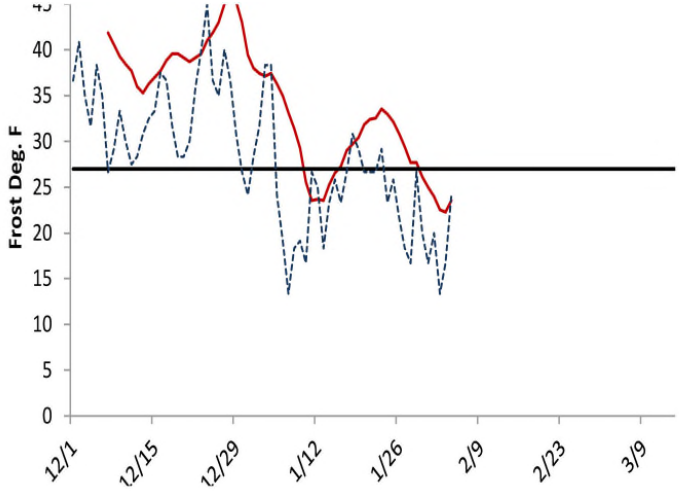
6. Knowledge Base & References (Click here)

Knowledge Base		References
1 - Compliance History	5 - Job Aid	1 - Regulatory – Codes
2 - Data Capture	6 - Learning & Development	2 - Technical Documents
3 - Definitions	7 - Standard Drawings	3 - Tools Catalog
4 - Document History	8 - Tools & Equipment	

7. Attachments

Attachment 1: Sample Enhanced Surveillance Implementation spreadsheet provided by Gas Distribution Engineering

12/2	49	
12/3	42	
12/4	38	
12/5	46	
12/6	42	
12/7	32	42
12/8	35	41
12/9	40	39
12/10	36	38
12/11	33	38
12/12	34	36
12/13	37	35
12/14	39	36



PUC 4-3

Request:

How do the inspection programs in New York and Massachusetts compare to practices in Rhode Island?

Response:

The Company's Massachusetts and New York gas distribution company affiliates also perform regular periodic leak surveys of their respective gas distribution systems. The process and frequency of proactively surveying the gas distribution system with leak detection equipment to identify leaks is similar for each state.

Additional survey requirements in New York and/or Massachusetts that are not incorporated in the Rhode Island procedure include a Mobile Distribution Survey, a Buildings of Public Assembly Survey, and a Special Survey of Mains under Electrified Railroads (Long Island Only).

The Rhode Island procedure requires a Special Survey of Hospitals and Schools that is not required by Massachusetts or New York.

PUC 4-4

Request:

Please describe NGRID's involvement with the Institute of Gas Innovation and Technology. Please provide a list of gas research projects that NGRID is involved with through the Institute and describe how these projects may improve RI's Gas ISR program.

Response:

The Institute for Gas Innovation and Technology (I-GIT) is a new program of the Advanced Energy Research and Technology Center at Stony Brook University (Stony Brook). Stony Brook is part of the State University of New York. The I-GIT was founded in February 2018, and National Grid's utilities in downstate New York are its founding members. The Narragansett Electric Company is not involved with this new institute. It will be a member-directed international program engaged in a variety of activities focused on developing and supporting low-carbon affordable energy derived from the effective use of gas technology and gas infrastructure, including, for example, renewable gas and hydrogen. As this is a relatively new program, the extent to which it will improve, or impact capital investment, has not yet been determined. For more information, please see Attachments PUC 4-4-1 and PUC, 4-4-2 as well as the following link:

https://www.stonybrook.edu/gas-innovation/about/

A Collaboration for Solutions to New Energy Challenges

Institute of Gas Innovation and Technology
AT STONY BROOK UNIVERSITY

nationalgrid

The Institute of Gas Innovation and Technology (I-GIT) is a new initiative of the Advanced Energy Research and Technology Center to seek and support collaborative solutions to today's energy challenges starting by leveraging the capabilities and attributes of the world's growing natural gas transportation, production, utilization and/or renewable technologies. The program participants will independently identify the broadest range of opportunities and develop focused collaborations with manufacturers, researchers, incubators, government, academia and policy advocates.

The founding partner of the program is National Grid, an international utility committed to fighting climate change.

AREAS OF FOCUS

I-GIT continuously assesses the technological needs and opportunities for new energy and information technologies and seeks to develop new partnerships and programs or policies to address them. The institute is based on the principles of New York's Reforming the Energy Vision initiative and broadly combines global outlook and assessment of gas-centric clean energy solutions.

STRUCTURE and ORGANIZATION

I-GIT is administered within the AERTC where it is housed with offices and state-of-the art laboratories. Its fundamental strategy and focus are to address hot-button issues through publications, identification of advanced technology development, international collaborations as defined by an Advisory Board representing its members.

The Institute will be managed by its Director and supported by the Advisory Board. I-GIT will have access to faculty and students at Stony Brook University, collaborating institutions and its members including National Grid. The program will establish specific annual goals which will be regularly tracked and reported to the Board. The I-GIT is funded by its members and maximizes external funding through leveraging resources.

Dr. Devinder Mahajan, Director

Christopher Cavanagh, PE Liaison to Advisory Board

I-GIT and Syracuse COE Biogas Symposium October 2017

'Realizing these opportunities the Advanced Energy Research and Technology Center is teaming up with visionary partners to hasten this revolution through the establishment of a new institute: The Institute of Gas Innovation and Technology."

- Robert Catell, Chairman AERTC, New York

Today's ENERGY Objectives

- **Infrastructure Integrity**
- **Energy Affordability**
- **Low Carbon and Renewable Energy**
- **Environmental Impacts**
- **Supply Diversification**
- **Building Science**
- **Combustion**
- **Safety**
- **Advanced Metering**
- **Big Data Management**
- **Clean Transportation**

continued >

HOW I-GIT WORKS

I-GIT will use a variety of tools to advance its objectives including collaboration, sponsorship or direct performance of a variety of projects:

- **Research and Testing**
- **Performance Analysis**
- **Emerging Technologies**
- **Policy Analysis**
- **Economic Analysis**
- **Environmental Analysis**
- **IT and Data Analysis**

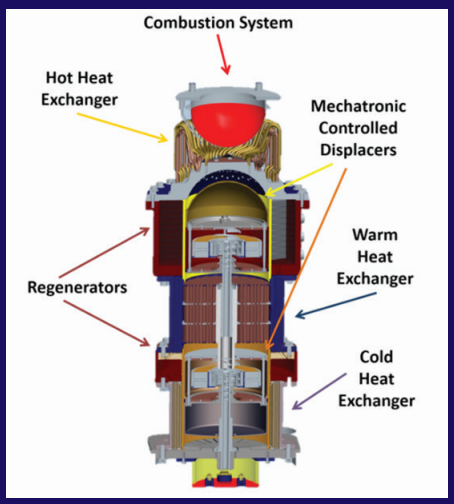
Enabling Renewable Energy

Thermal Infrastructure

Hydrogen and Fuel Cell Transportation

End Use Data and Automation

CHP



Advanced Energy Conversions Technologies

Stony Brook University

Institute of Gas Innovation and Technology
Advanced Energy Center, Stony Brook University Research and Development
1000 Innovation Road, Stony Brook, NY 11794-6044 | www.aertc.org

nationalgrid

National Grid
One MetroTech Center, Brooklyn, NY 11201 | www.nationalgridus.com

INSTITUTE OF GAS INNOVATION AND TECHNOLOGY

An Integrated Gas Energy Institute

A collaboration between Stony Brook University's Advanced Energy Research and Technology Center (AERTC) and National Grid, I-GIT is a consortium composed of academic and industry leaders working together to find clean and affordable solutions to meet the nation's growing energy demands and challenges.

I-GIT is administered within AERTC, where it is housed with offices and state-of-the-art laboratories. Its expert team of researchers, educators and investigators are working closely with the clean-tech community to bring together business and government leaders, policymakers and researchers in developing innovative programs to deploy advanced energy technologies.

THERE ARE FIVE PILLARS THAT DEFINE I-GIT:

1. **A transition to low-carbon technologies**
   I-GIT will focus on hybrid fuel technologies through the introduction of various renewable sources, such as gas, hydrogen, fuel cell, geothermal and thermal heat.
2. **Gas technology gap analysis**
   Preparing and maintaining a gap analysis will provide I-GIT opportunities to support environmental, societal and economic development goals.
3. **Workforce training**
   To meet future needs, I-GIT will use AERTC's corporate training program and develop graduate certificate programs with member input.
4. **Becoming an international consortium**
   I-GIT will build upon AERTC's existing relationships with other countries, including China, Japan, Korea and the United Kingdom, to increase membership and establish a global advanced technologies exchange mechanism.
5. **Leveraging industry funding**
   To help expand its funding base, I-GIT will work with state and federal agencies.

For more information about I-GIT, visit
stonybrook.edu/gas-innovation

Stony Brook University

PUC 4-5

Request:

Please describe research funded by NGRID into application of artificial intelligence to identify safety issues with gas distribution systems. Are there other innovative technologies NG is considering?

Response:

In New York, National Grid has some artificial intelligence (AI), augmented reality (AR), and Virtual Reality (VR) projects to develop training and operator qualification (OQ) materials for gas applications. National Grid is partnering with NYSEARCH and Operations Technology Development to address uses for these newly emerging technologies in gas to increase safety. One example National Grid has only recently started working on with industry partners at NYSEARCH is a goal to develop software applications for Microsoft HoloLens to provide focused training on specific gas tasks and for operator qualification using VR and AR. Applications are being developed to create 3D simulations using a wearable device so that trainees can have their hands free to perform tasks as they are being trained. Another example is AI work being done through NYSEARCH with a company called UTTO to develop a tool that uses AI to assess and improve an individual pipeline locator's technique. More precise locating will improve gas safety and help avoid damages. These efforts focus on increasing gas safety and skills.

PUC 4-6

Request:

Please provide the results of the System Integrity Report for the New York and Massachusetts jurisdictions.

Response:

Please see Attachment PUC 4-6 for the requested information. Due to the voluminous nature of this attachment (which is 343 pages), the Company is providing Attachment PUC 4-6 in a Zipped File.

Prepared by or under the supervision of: John B. Currie

PUC 4-7

Request:

What is the status of infrastructure projects in Northern RI (funds for engineering studies included in last year's Gas ISR).

Response:

The Company is having ongoing discussions with the Division of Public Utilities and Carriers regarding potential long-terms solutions to increase capacity in Northern Rhode Island as a result of the decommissioning of the Cumberland LNG tank. Given that these discussions are ongoing, the Company is not forecasting any capital spending in Fiscal Year 2019.

Prepared by or under the supervision of: Faye Brown and John B. Currie

PUC 4-8

Request:

Please describe research supported by National Grid into gas best practices conducted by the Gas Technology Institute. (The institute mentions that they conduct research on behalf of utilities who are able to rate base the research investments.)

a) What projects are funded with RI ratepayer dollars?

b) How are the results of the research integrated into RI gas infrastructure planning, management and maintenance?

Response:

The Company is not involved with the Gas Technology Institute. National Grid's New York local distribution companies are, however, members of Operations Technology Development (OTD) and Utilization Technology Development (UTD). Both gas industry consortia contract research with the Gas Technology Institute.

Additional publicly available information about OTD and UTD, including research project summaries, can be found at the websites listed below. Further details on specific research projects requires a member login.

https://otd-co.org/Pages/default.asp
https://www.utd-co.org/Pages/default.aspx

a) No projects are being funded through rates charged to Rhode Island customers.

b) Practices identified through research studies or adoption of any new commercially available devices are part of the development effort. Research and Development (R&D) and Advanced Field Services bring these efforts to the field as pilot projects. These pilot projects are evaluated to determine the safety, process, and cost benefits, and how they can be integrated into gas infrastructure planning, management, and maintenance. Many of the research efforts and process improvements in National Grid's other regions in recent years have focused on improving pipeline safety, inspections, and assessments of National Grid's assets, leak detection, pipe repair, and rehabilitation. Others look at developing new tools and techniques, such as new ways to stop off gas. National Grid typically goes through a process of demonstrations or pilots and evaluations and then phases in deployments after updating procedures and provides training and coaching through the planned implementation.

PUC 4-8, page 2

The Rhode Island rate structure does not currently support R&D. If the Public Utilities Commission wishes to consider supporting gas R&D projects for the benefit of gas customers in Rhode Island, the Company would be willing to discuss opportunities for co-funding gas research with other companies through industry research consortia or specific joint industry projects and explore synergies that may be obtained through such co-funding.

PUC 4-9

Request:

The investments approved in Docket 4770 for the Gas Business Enablement Program promise to lead to 'a step-change in safety, reliability, efficiency and compliance providing direct and tangible benefits to customers (Testimony of Tim Horan, Docket 4770 Book 1, page 9). Please explain how the FY 2020 Gas ISR Plan reflects these investments.

Response:

The Gas Business Enablement Program is a comprehensive business transformational program focused on strengthening and improving the performance of National Grid USA's (National Grid) gas business with regard to managing assets, delivering work, and serving customers. Although the Gas Business Enablement Program was not designed to deliver direct Infrastructure, Safety, and Reliability (ISR) Plan cost savings, it provides direct and tangible benefits to customers with the delivery of new functionalities and capabilities that strengthen gas safety efforts and priorities and enhance gas system safety and reliability, including the implementation of American Petroleum Institute (API) Recommended Practice 1173 (API 1173).

There are two areas where the Gas Business Enablement Program will deliver benefits to the ISR Plan:

1. The Company will be able to enhance its asset and risk management practices using software that will support the generation of prioritization scores for all segments of leak-prone pipe. This software will support more frequent and efficient generation of prioritization scores.

2. The Company's new, standardized processes and systems will allow enhanced performance in capturing asset records electronically, which will enable improvement to overall public safety, and field personnel now have the capability to remotely access asset mapping records through a geographical information system (GIS) application deployed on mobile devices in the field.

Prepared by or under the supervision of: Christopher Connolly and John Currie