

March 30, 2015

BY HAND DELIVERY AND ELECTRONIC MAIL

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

RE: Docket 4540 - National Grid's Proposed FY 2016 Gas Infrastructure, Safety, and Reliability Plan
Responses to Record Requests

Dear Ms. Massaro:

On behalf of National Grid,¹ I have enclosed ten (10) copies of the Company's responses to the record requests issued at the Rhode Island Public Utilities Commission's evidentiary hearing on March 24, 2015.

In this transmittal, the Company is providing responses to Record Request Nos. 2, 4, 5, and 6. This transmittal completes the Company's responses to the record requests issued in this proceeding.

Thank you for your attention to this matter. If you have any questions, please contact me at 781-907-2121.

Very truly yours,



Raquel J. Webster

Enclosures

cc: Docket 4539 Service List
Steve Scialabba, Division
Leo Wold, Esq.
Greg Booth

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

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.

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



Joanne M. Scanlon

APR 15 2015

Date

Docket No. 4540 - National Grid's FY 2016 Gas Infrastructure, Safety and Reliability (ISR) Plan - Service List 1/8/15

Name/Address	E-mail Distribution	Phone
Raquel J. Webster, Esq. National Grid. 280 Melrose St. Providence, RI 02907	raquel.webster@nationalgrid.com	
	celia.obrien@nationalgrid.com	
	Joanne.scanlon@nationalgrid.com	
David Iseler Melissa Little National Grid	David.Iseler@nationalgrid.com	
	Melissa.Little@nationalgrid.com	
	Suhila.NouriNutile@nationalgrid.com	
Leo Wold, Esq. Dept. of Attorney General 150 South Main St. Providence, RI 02903	Lwold@riag.ri.gov	401-222-2424
	Steve.scialabba@dpuc.ri.gov	
	James.lanni@dpuc.ri.gov	
	John.spirito@dpuc.ri.gov	
	Don.ledversis@dpuc.ri.gov	
	dmacrae@riag.ri.gov	
	jmunoz@riag.ri.gov	
David Effron Berkshire Consulting 12 Pond Path North Hampton, NH 03862-2243	Djeffron@aol.com	603-964-6526
File an original & nine (9) copies w/: Luly E. Massaro, Commission Clerk Public Utilities Commission 89 Jefferson Blvd. Warwick RI 02888	Luly.massaro@puc.ri.gov	401-780-2107
	Todd.bianco@puc.ri.gov	
	Patricia.Lucarelli@puc.ri.gov	
	Sharon.ColbyCamara@puc.ri.gov	
Christopher Kearns, OER	Christopher.Kearns@energy.ri.gov	
	Danny.Musher@energy.ri.gov	

Record Request No. 2

Request:

In the Appanoag area, what is the state of the gas infrastructure? What exists? How old is it? What opportunities is Grid taking advantage of with this project, what is line separation and how much distance is between pipes.

Response:

The Company has been working closely with the Rhode Island Department of Transportation (RIDOT) and officials in the City of Warwick on the Apponaug Circulator Long Term Improvement Project (Apponaug Project), which has been designed to revitalize the historic village by making it a livable, walkable, and bikeable community center with shops and restaurants and to improve the future traffic flow so that this area maintains its historic character.

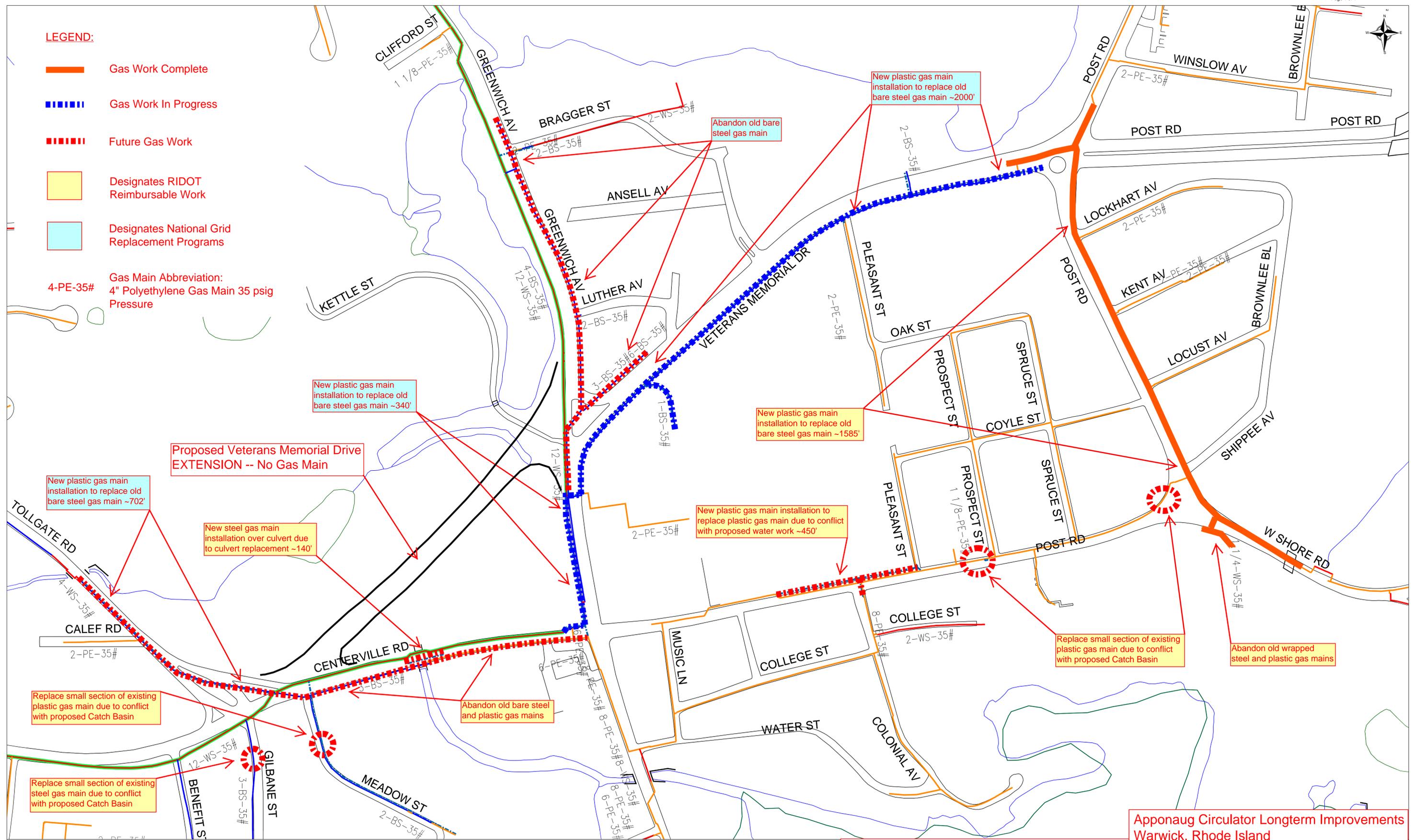
In this neighborhood, National Grid's underground gas facilities are comprised of small, diameter plastic main, small, diameter unprotected steel, and 12-inch, protected steel. The plastic mains in this area are mostly two-inch and four-inch pipe, with installation dates ranging from 2000 to 2010. The area also includes unprotected steel mains, ranging from two-inch to six-inch pipe with installation dates dating from 1928 to 1956. In addition, 12-inch protected steel was installed between 1958 and 1961.

Under the Apponaug Project, the Company is taking advantage of the opportunity to relay approximately 4,700 feet of gas main and associated services and abandon an additional 2,600 feet of unprotected, steel mains in this area, for a total abandonment of 7,300 feet of gas main. Consistent with its main replacement procedures, the Company will lay the new pipe parallel to the existing pipe within one-to-two feet, where possible, or as agreed to with project planners. The proposed work will be a combination of reimbursable and non-reimbursable public works projects. National Grid plans to work closely with the RIDOT and the City of Warwick over the next few years to ensure proper coordination of all aspects of this project.

Attachment RR-2a identifies the Company's existing facilities and proposed work in the area. Attachment RR-2b provides the proposed configuration of the Apponaug RIDOT project.

LEGEND:

- Gas Work Complete
 - - - - Gas Work In Progress
 - - - - Future Gas Work
 - Designates RIDOT Reimbursable Work
 - Designates National Grid Replacement Programs
- 4-PE-35# Gas Main Abbreviation:
 4" Polyethylene Gas Main 35 psig Pressure



NATIONAL GRID

Apponaug Circulator Longterm Improvements
 Warwick, Rhode Island
 RIDOT RIC No. 2014-CH-028, Construction
 GAS MAIN ADJUSTMENTS OVERVIEW

Record Request No. 4

Request:

What are the independent variables used in the algorithm used in ENG4030?

Response:

The following independent variables are used in the algorithm, ENG04030.

- a. Consequence factor, C
- b. Public works, PW
- c. Size-pressure upgrade reinforcement, RI
- d. Distribution Integrity Management Program factor, DIMP

Record Request No. 5

Request:

Is there a risk factor maintained for each independent variable in ENG4030?

Response:

Risk is a product of probability of failure and consequence. The detail of the consequence factors used in ENG04030 are as follows:

a. **Consequence factor, C:**

The Company assigns this factor based on the number of buildings in the neighborhood of the leak because consequences increase with building size and number of people affected.

- i. If there are no buildings in the area, $C = 0$
- ii. If there are only single family homes in the area, $C = 1$
- iii. If there are small buildings (multi-family, strip mall, etc.) in the area, $C = 1.2$
- iv. If there are public buildings (school, church, hospital, etc.) in the area, $C = 1.5$

b. **Distribution Integrity Management Program factor, DIMP:**

The Company's DIMP factor is based on asset risk analysis. The asset is first broken into two general facilities – mains or services. Each facility is further broken down by such factors as material (including active/inactive status, pipe coating, and cathodic protection status), inside vs. outside meter set (for services), and pressure and diameter (for mains). A relative risk score is calculated for each asset subclass (with the main and service facilities ranked independently) for each of the eight defined threat categories. The risk ranking method for each asset subclass and threat consists of four parts: likelihood of failure and release of gas, likelihood of the release resulting in ignition, separate failure mode, and the potential consequences of such an event. DIMP factor is updated on an annual basis to accelerate the attrition of mains that belong to an asset group, which is known to have a higher likelihood of incident or is of a high relative risk.

c. **Public Works, PW:** The Company makes these additional adjustments to take into account the impact of public works projects adjacent to the gas main.

- i. For Road Resurfacing, $PW = 2.4$
- ii. For Road Reconstruction, $PW = 4.2$

Record Request No. 6

Request:

What is the cumulative number of post-corrosion inspections yet to be completed?

Response:

The Company plans to complete its 421 post-corrosion inspections and 15 inside post-corrosion inspections, and any necessary remediation work, during Fiscal Year 2016.

Record Request No. 9

Request:

How many contractors are available to bid on projects? How are these contractors procured? How many respond? What is the compensation and is it a fixed price per mile?

Response:

In 2011, National Grid issued a competitive request-for-proposal (RFP) to over 11 contractors for over 1,000 units of work, including among other things, main replacement, services, and connections. National Grid issued this RFP with the intent to secure pricing and crews for three years, with two option years. As a result of National Grid's Procurement process, the strategic sourcing team (comprised of Stakeholders and Procurement) evaluated the bids, and subsequently, awarded contracts to six contractors in the New England area. The strategic sourcing team chose one supplier as the primary contractor for the Rhode Island Region. In 2014, the team re-evaluated the resources supporting Rhode Island, and determined that a secondary supplier was required to ensure that the work plan was completed. The National Grid Sourcing Team engaged the suppliers that the Company had used historically, as well as additional suppliers to provide pricing for Rhode Island.

Larger individual projects may be independently contracted. The number of qualified bidders for projects varies depending on the type of work being competitively bid by the Company, but, in general, most projects receive approximately four to five bids. However, certain projects can require more contractors and can span multiple years.

Under National Grid's Procurement process, the strategic sourcing team (comprised of business unit stakeholders and the Procurement organization) issues RFPs, evaluates the qualifications of contractors as well as their competitive bids, and subsequently awards a contract for work. Contractors that have previously worked for the Company are procured through the Company's Ariba on-line procurement system used for RFPs. New contractors that request to be included in the RFP process must first go through the Company's Vendor Onboarding process. All contractor bidders for "high risk" work must also be qualified through Northeast Gas Association (NGA). The NGA is a regional trade association that provides Operator Qualification programs for pipeline operators to develop and maintain a written qualification program for individuals performing covered tasks on pipeline facilities.

The multi-year contact the Company has for mains and services for distribution-related work is a structured on a unit-price basis. Also, a number of the units on the distribution contracts are structured with tiered pricing based on the length of the job so as to provide an incentive to lower unit costs on the larger work projects.

Record Request No. 9, page 2

Finally, the larger projects, which are independently bid, typically do not use fixed price-per-mile for project work and complex project work. Rather, larger RFP projects are generally bid on a lump sum basis, and unit pricing is established for additional work above the scope of the work requested.