

February 14, 2018

VIA HAND DELIVERY & ELECTRONIC MAIL

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

**RE: Docket 4781 - Proposed Fiscal Year 2019 Gas Infrastructure, Safety, and Reliability Plan
Responses to PUC Data Requests – Set 2**

Dear Ms. Massaro:

Enclosed please find 10 copies of National Grid's¹ remaining responses to the Second Set of Data Requests issued by the Rhode Island Public Utilities Commission (PUC) in the above-referenced docket. National Grid filed its initial responses to these Data Requests on February 8, 2018.

This filing also includes a Motion for Protective Treatment of Confidential Information in accordance with Rule 1.2(g) of the PUC's Rules of Practice and Procedure and R.I. Gen. Laws § 38-2-2(4)(B). National Grid seeks protection from public disclosure of certain confidential and privileged information, which is contained in the Company's responses to Data Requests COMM 2-3 and 2-11. In compliance with Rule 1.2(g), National Grid has provided the PUC with one complete, un-redacted copy of the confidential materials in a sealed envelope marked "**Contains Privileged and Confidential Materials – Do Not Release,**" and has included confidential and/or redacted copies of the materials for the public filing.

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 4781 Service List
Leo Wold, Esq. (w/o enclosures)
Al Mancini, Division
John Bell, Division
Allen Neale, Daymark Energy Advisors
Alex Cochis, Daymark Energy Advisors

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.

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

February **14**, 2018

Date

Docket No. 4783 National Grid's Electric Infrastructure, Safety and Reliability Plan FY 2019 - Service List as of 1/8/17

Name/Address	E-mail Distribution	Phone
Raquel J. Webster, Esq. National Grid 280 Melrose St. Providence, RI 02907	raquel.webster@nationalgrid.com ;	401-784-7667
	celia.obrien@nationalgrid.com ;	
	Joanne.scanlon@nationalgrid.com ;	
National Grid Sonny Anand John Nestor Ryan Moe Adam Crary William Richer	Sonny.anand@nationalgrid.com ;	
	Ryan.moe@nationalgrid.com ;	
	John.nestor@nationalgrid.com ;	
	Adam.crary@nationalgrid.com ;	
	William.richer@nationalgrid.com ;	
Division of Public Utilities (Division) Leo Wold, Esq. Dept. of Attorney General 150 South Main St. Providence, RI 02903	Lwold@riag.ri.gov ;	
	Jmunoz@riag.ri.gov ;	
	Dmacrae@riag.ri.gov ;	
	Al.contente@dpuc.ri.gov ;	
	Macky.McCleary@dpuc.ri.gov ;	
	Jonathan.Schrag@dpuc.ri.gov ;	
	Kevin.Lynch@dpuc.ri.gov ;	
	Joseph.shilling@dpuc.ri.gov ;	
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David Efron Berkshire Consulting 12 Pond Path North Hampton, NH 03862-2243	Djeffron@aol.com ;	603-964-6526
Greg Booth Linda Kushner PowerServices, Inc 1616 E. Millbrook Road, Suite 210 Raleigh, NC 27609	gbooth@powerservices.com ;	919-256-5900
	Lkushner@powerservices.com ;	

Office of Energy Resources (OER) Andrew Marcaccio, Esq. Dept. of Administration Division of Legal Services One Capitol Hill, 4 th Floor Providence, RI 02908	Andrew.marcaccio@doa.ri.gov ;	401-222-3417
Christopher Kearns, OER Danny Musher Nick Ucci	Christopher.Kearns@energy.ri.gov ; Danny.Musher@energy.ri.gov ; Nicholas.Ucci@energy.ri.gov ;	
File an original & ten copies w/: Luly E. Massaro, Commission Clerk Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	Luly.massaro@puc.ri.gov ; Cynthia.WilsonFrias@puc.ri.gov ; Alan.nault@puc.ri.gov ; Todd.bianco@puc.ri.gov ;	401-780-2107
Andrew Marcaccio, Esq. Dept. of Administration Division of Legal Services	Andrew.marcaccio@doa.ri.gov ;	401-222-3417
Christopher Kearns, OER Danny Musher Nick Ucci	Christopher.Kearns@energy.ri.gov ; Danny.Musher@energy.ri.gov ; Nicholas.Ucci@energy.ri.gov ;	

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

RHODE ISLAND PUBLIC UTILITIES COMMISSION

Fiscal Year 2019 Gas Infrastructure, Safety and Reliability Plan))))	Docket No. 4781
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**THE NARRAGANSETT ELECTRIC COMPANY
D/B/A NATIONAL GRID'S MOTION FOR PROTECTIVE
TREATMENT OF CONFIDENTIAL INFORMATION**

National Grid¹ hereby requests that the Rhode Island Public Utilities Commission (PUC) provide confidential treatment and grant protection from public disclosure of certain confidential, competitively sensitive, and/or proprietary information submitted in this proceeding, as permitted by PUC Rule 1.2(g) and R.I. Gen. Laws § 38-2-2(4)(B). National Grid also hereby requests that, pending entry of that finding, the PUC preliminarily grant National Grid's request for confidential treatment pursuant to Rule 1.2 (g)(2).

I. BACKGROUND

On February 14, 2018, National Grid filed with the PUC responses to the Second Set of Data Requests from the PUC in this docket (COMM Set 2). COMM Set 2 includes Data Request COMM 2-3 (seeking, *inter alia*, certain regarding the Company's commercial customers seeking to expand in Southern Rhode Island) and Data Request COMM 2-11 (seeking, *inter alia*, information regarding discounts provided for purchasing meters in bulk). National Grid's response to COMM 2-3 includes a redacted and un-redacted version, as the response includes

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

confidential and proprietary customer information. National Grid's response to COMM 2-11 also includes a redacted and un-redacted version, as the response includes confidential and proprietary information regarding the Company's pricing structure for purchasing meters. Therefore, National Grid requests that, pursuant to Rule 1.2(g), the PUC afford confidential treatment to the information contained in the un-redacted versions of the Company's responses to COMM 2-3 and COMM 2-11.

II. LEGAL STANDARD

Rule 1.2(g) of the PUC's Rules of Practice and Procedure provides that access to public records shall be granted in accordance with the Access to Public Records Act (APRA), R.I. Gen. Laws § 38-2-1, *et seq.* Under APRA, all documents and materials submitted in connection with the transaction of official business by an agency is deemed to be a "public record," unless the information contained in such documents and materials falls within one of the exceptions specifically identified in R.I. Gen. Laws § 38-2-2(4). To the extent that information provided to the PUC falls within one of the designated exceptions to the public records law, the PUC has the authority under the terms of APRA to deem such information as confidential and to protect that information from public disclosure.

In that regard, R.I. Gen. Laws § 38-2-2(4)(B) provides that the following types of records shall not be deemed public:

Trade secrets and commercial or financial information obtained from a person, firm, or corporation which is of a privileged or confidential nature.

The Rhode Island Supreme Court has held that the determination as to whether this exemption applies requires the application of a two-pronged test set forth in *Providence Journal Company v. Convention Center Authority*, 774 A.2d 40 (R.I. 2001). The exemption applies where the

disclosure of information would be likely either (1) to impair the Government's ability to obtain necessary information in the future; or (2) to cause substantial harm to the competitive position of the person from whom the information was obtained. *See Providence Journal*, 774 A.2d 40.

The first prong of the test assesses whether the information was provided voluntarily to the governmental agency. *Providence Journal*, 774 A.2d at 47. If the answer to the first question is affirmative, then the question becomes whether the information is "of a kind that would customarily not be released to the public by the person from whom it was obtained." *Id.*

III. BASIS FOR CONFIDENTIALITY

The confidential information contained in the Company's response to Data Request COMM 2-3 and COMM 2-11 is information of the type that the Company ordinarily would not make public. The dissemination of the type of information in the Company's response to Data Request COMM 2-3 has the potential to cause harm to National Grid's customers because it would disclose identifying and personal information specific to those customers. Further, the information the Company seeks to protect in its response to Data Request COMM 2-3 is third party information that National Grid ordinarily would not make public. In the Company's response to Data Request COMM 2-11, the pricing structure information provided is confidential and privileged information of the type that the Company does not ordinarily make public. Moreover, public disclosure of such information could impair the Company's ability to obtain advantageous pricing in the future, thereby causing substantial competitive harm. Accordingly, the Company seeks protection for such confidential information.

IV. CONCLUSION

For the foregoing reasons, National Grid respectfully requests that the PUC grant its Motion for Protective Treatment of Confidential Information.

Respectfully submitted,

**THE NARRAGANSETT ELECTRIC
COMPANY d/b/a NATIONAL GRID**

By its attorney,

A handwritten signature in blue ink, appearing to be "RH", with a long horizontal flourish extending to the right.

Robert J. Humm, Esq. (#7920)

National Grid

280 Melrose Street

Providence, RI 02907

(401) 784-7415

Dated: February 14, 2018

COMM 2-3

Request:

How many commercial customers are seeking to expand existing and new operations in Southern, RI? Please provide detail as to these customers, what the expansions would entail, a timeline, estimate of costs and address any barriers the Company has identified.

Response:

There are 26 commercial and industrial customers that have expressed interest in a new or expanded use of natural gas along the Southern Rhode Island route. A list of customers, tentative customer in-service targets, and a forecast of the load requirement is provided in the table below.

Limited gas capacity related to the system constraints is the greatest barrier to serving additional customers. The Company's preferred solution is to install approximately 5.1 miles in parts of Warwick and East Greenwich of 20 inch 200 psig steel main, installed in phases and initially operated at 99 psig. A new 200 psig to 99 psig district regulator with the new main as the feed will be installed in the final phase of the project. The Company has met with the Division regarding the need to expand gas service in Southern Rhode Island.

The Company inquired and was informed that the Southern Rhode Island, project meets the criteria as a major energy facility. As such, the project requires submittal and approval from the Rhode Island Energy Facility Siting Board (RI EFSB). The timeline for adding gas capacity is dependent on when the Company receives approval from the RI EFSB. The Company is in the process of engineering and drafting the application and anticipates filing the application in June 2018.

At this time, the Company has not finalized estimated construction costs for the preferred solution. Upon receipt of RI EFSB approval, the Company will finalize construction estimates and develop construction forecasts by fiscal years. The Company expects that these costs will result in significant increases to the amounts currently reflected in the Fiscal Year 2019 Gas Infrastructure, Safety, and Reliability (ISR) Plan at Section 2, Table 2 (RI Gas ISR Spending Forecast), at page 24 of 25 (Bates No. 47).

Outside of the gas capacity main expansion, local design requirements will be required to serve each customer. The design will likely include new main extension and service laterals to serve customers. Construction costs related to serving an individual customer outside of the gas expansion project would be subject to tariff and reviewed through the Company Internal Rate of Return (IRR) model and subject to a CIAC (contribution in aid of construction).

COMM 2-3, page 2

Forecasted Growth Summary

REDACTED

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4781
In Re: Gas Infrastructure, Safety, and Reliability Plan FY2019
Responses to the Commission's Second Set of Data Requests
Issued on January 24, 2018

COMM 2-4

Request:

Of the \$1.5M requested to fund study and engineering costs, \$.75M each for Southern and Northern, RI, please provide an itemized list of the services needed and cost of each service for both studies.

Response:

The table below provides an itemized list of services needed and current cost of each service for Southern Rhode Island. The Company is currently in the process of developing plans for a permanent solution for Northern Rhode Island. When the development plans are finalized, the Company anticipates similar services will be needed for Northern Rhode Island at a similar cost.

Breakdown of Southern RI Spend FY19

Engineering (Remainder of Design, Subsurface Exploration, In House Support)	\$312,475
Project Management	\$111,600
Project Development (Support of EFSB Filing and Permitting)	\$24,000
Legal Estimating (EFSB Filing and Support of Permitting)	\$60,000
Environmental (Environmental review and permitting)	\$48,000
Community Outreach Program (Community Development For Project Awareness)	\$155,048
Other	\$38,877
Total	\$750,000

COMM 2-5

Request:

Please provide an update of the design and permitting processes that have occurred to support the start of construction in Southern, RI.

Response:

To date, the Company has completed the following work associated with the design and permitting process to increase capacity in Southern Rhode Island:

- Outsourced engineering design on November 30, 2017;
- 30% of design drawings are on schedule to be provided during the first week of March 2018. Progress drawings are being submitted to compress the review time and mitigate changes, allowing a more efficient submittal of 60% of the drawings in April 2018;
- Environmental assessment will begin once 30% of the design drawings are completed;
- Initial chapters of the Rhode Island Energy Facility Siting Board filing are underway, which do not require a level of design; and
- A community outreach development firm has been retained and, in February 2018, will begin to bring positive awareness to the project.

COMM 2-6

Request:

Provide any and all data to support that peak day customer requirements are expected to increase by an additional 15,000 dekatherms per day over the next 5 years.

Response:

The Northern Rhode Island project included in the Fiscal Year (FY) 2019 Gas Infrastructure, Safety, and Reliability Plan is intended to address supply shortfalls as a result of decommissioning the Cumberland liquefied natural gas (LNG) facility. The statement regarding the 15,000 dekatherms (Dth) needed to address increases in peak day customer requirements should have been characterized as the incremental supply required for delivery to the Cumberland citygate. With the loss of 30,000 Dth per day of supply formerly provided by the Cumberland LNG plant and the addition of 24,000 Dth per day of supply delivered to the Lincoln citygate, the Company has a supply portfolio shortfall of 6,000 Dth per day. However, the hydraulic analysis determined that the Company needs 750 Dth per hour to pressure balance the system during hours of peak demand to stay within the 24 hour maximum daily quantity.

Based on a 5 percent peak hour factor, the current supply need equates to the 15,000 Dth per day delivery requirement to Cumberland citygate. The Company is managing within the supply portfolio shortfall by operating portable LNG as a short term solution. As stated in the Company's response for COMM 2-4, the Company is currently in the process of developing plans for a permanent solution for Northern Rhode Island.

COMM 2-7

Request:

Please itemize the \$4.74 million requested for the Allens Avenue repair work. Please include the date when the defects were discovered and by whom, the date that the repair work is expected to commence and end and who will repair the defects.

Response:

Please refer to the table below for itemization of the Allens Avenue Main Replacement project. The defects were initially discovered on November 4, 2016, when a girth weld on the existing pipeline was exposed during a gas pressure regulation engineering project. The appearance of the weld concerned the National Grid inspector on-site, who then requested that the weld be assessed by both visual and non-destructive examination testing methods, such as x-rays. The examination indicated that the weld did not meet current acceptability standards for welding of pipelines and related facilities, which raised concerns about the structural integrity of the girth welds. After review of available documentation and as-built conditions, it was determined that the weld at issue could be indicative of the weld quality over the entire 1,600 foot line segment. This type of weld defect increases the risk of the line failing at its girth welds. At the request of the Division of Public Utilities and Carriers, the Company exposed two additional girth welds on November 27, 2017 and found similar defects. Further review detected repair patches on the pipe that are not allowed under current Company policy. X-rays of the repair patches indicated the existence of metal loss.

The Company has not finalized specific dates for starting and completing construction. However, the planning assumption is that construction will start and end between April and December 2018. The majority of the main replacement project will be outsourced to a third party contractor through a competitive bid process.

Itemization of Allens Avenue Main Replacement Project:

Cost Category	Total Allens Ave.
Contractor Cost	\$ 2,933,555
National Grid Labor	\$ 119,735
Materials & Transportation	\$ 277,296
Overheads	\$ 962,592
Sub-total	\$ 4,293,178
Contingency	\$ 429,318
AFUDC	\$ 12,828
Total	\$ 4,735,324

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4781
In Re: Gas Infrastructure, Safety, and Reliability Plan FY2019
Responses to the Commission's Second Set of Data Requests
Issued on January 24, 2018

COMM 2-8

Request:

Please provide a copy of the Easement with Chevron. Also indicate the details behind the relocation of the pipe, including start date, end date, number of miles, size of pipe and itemized cost.

Response:

Please see Attachment COMM 2-8 for a copy of the Right of Way Agreement (the easement) between Providence Gas Company, now The Narragansett Electric Company, and Gulf Oil Corporation, now Chevron Land and Development Company (Chevron), for the property owned by Chevron on Veterans Memorial Parkway in East Providence. Project details and itemized costs are summarized in the tables below. Actual construction start and end dates have not been finalized, but the Company expects construction to occur within the period noted below.

Project Details:

Description	Current Pipe	Replacement Pipe
Number of miles	1,200 feet	1,200 feet
Size	12 inch	12 inch and 16 inch
Material	Coated Steel	Coated Steel
Pressure	200 PSIG	200 PSIG
Start Date		Estimated April 2018
End Date		Estimated December 2018

Summary of Cost Estimate:

Cost Category	Estimate
Contractor Cost	\$ 1,378,768
National Grid Labor	\$ 114,732
Materials & Transportation	\$ 245,115
Overheads	\$ 557,179
Sub-total	\$ 2,295,794
Contingency	\$ 229,579
AFUDC	\$ 8,005
Total	\$ 2,533,379

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

BOOK 151 PAGE 423

RIGHT-OF-WAY AGREEMENT

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF ALLEGHENY) ss

KNOW ALL MEN BY THESE PRESENTS: That

GULF OIL CORPORATION, a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, and having its principal place of business at Pittsburgh, Pennsylvania, County of Allegheny, hereinafter called "Gulf", for and in consideration of the sum of Seven Thousand Five Hundred Dollars (\$7,500) paid, receipt of which is hereby acknowledged, and other good and valuable considerations, does hereby grant and convey unto PROVIDENCE GAS COMPANY, a corporation organized and existing under the laws of the State of Rhode Island, and having its principal place of business at 100 Weybosset Street, County of Providence, City of Providence, State of Rhode Island, hereinafter called "Providence", a right-of-way and easement for the purpose of laying, constructing, maintaining, operating, repairing, altering, replacing and removing one 12" and three 10" pipe lines, together with pipe manifold, all for the transportation of natural and/or manufactured gas only, in, under, through and across land or lands of Gulf situated in the Town of East Providence, County of Providence, State of Rhode Island, all as shown on drawing prepared by Ford, Bacon & Davis, Inc., Engineers, and entitled "Pipe Line on Property of Gulf Oil Corporation, East Providence, Rhode Island" attached to and made a part hereof.

Providence is hereby granted:

- (a) The right to enter upon and exit from the right-of-way easement herein granted and to pass along said strip with equipment, material and men, together with the right of ingress and egress over and across lands of Gulf, by specific routes to be designated by Gulf, to and from said right-of-way and easement;
- (b) The right, during the initial construction period only, to enter upon, clear off and use an additional strip of land fifty (50) feet in width, to be designated by Gulf's engineers, such strip to be contiguous to the right-of-way easement granted herein.

Except as provided in Paragraph 3, this easement shall continue so long as said pipe line or lines shall be maintained and operated across said premises. In the event Providence shall abandon said pipe line or lines, it shall, at its own expense, remove said pipe line or lines from the premises covered hereby and restore said premises to as good condition as existed prior to the construction of said pipe line or lines.

Any party acquiring the rights and interests of Providence hereunder, by operation of law or otherwise, shall be bound by and subject to the obligations and liabilities of Providence hereunder. It is further agreed that Providence shall not transfer, sub-let, assign or mortgage the right-of-way and easement granted herein or any interest therein without the prior written consent of Gulf.

The said right-of-way and easement unto Providence is granted upon and subject to the following provisions to be kept and performed by Providence:

BOOK 151 PAGE 424

Said pipe line and/or lines shall be over-all welded steel construction having a maximum operating pressure of three hundred (300) pounds, and shall be buried at least thirty (30) inches below the ground surface.

2. It is understood by Providence that the above described lands are part of a plant site of Gulf and that said lands may be used in connection with said plant. Gulf reserves the right at any time to use the said lands, to receive and deposit thereon fill from dredging operations and to build upon or otherwise use for plant purposes the ground surface on, in, upon, over, through and across the above described lands. Gulf will give ninety (90) days' notice in writing to Providence, furnishing Providence with plans and specifications of any such building or other improvements, whereupon Providence will encase its lines, if in its judgment it is necessary or desirable to do so, or if so requested to do by Gulf. If it becomes necessary for Gulf to construct tanks, railroad sidings, driveways, roads or streets or similar installations, Gulf shall give Providence notice in writing that such installations are to be constructed at least ninety (90) days before construction is commenced, and Providence will encase, vent, and protect its lines if in its judgment it is necessary or desirable to do so, or if so requested to do by Gulf.
3. Gulf reserves all right to the use of the land described herein not inconsistent with the rights herein granted, and should Gulf desire to use the land in which said 12" pipe line is located and it is found that such use will interfere with the operation of said 12" pipe line by Providence or that it will not be desirable in the sole judgment of Gulf to use the land for its purpose with said 12" pipe line as presently located, then it is agreed that Providence will, after consultation with Gulf, at Providence's own expense, relocate its 12" pipe line on said Gulf premises in such manner as may be designated by Gulf's engineers, so that said pipe line will not interfere with Gulf in its use of the land in which it is located.
4. Providence agrees to maintain and operate the line or lines at all times in accord with the latest and best engineering and operating practices governing high pressure gas transmission pipe lines in similar locations and under like circumstances to provide maximum safety.
5. Providence will indemnify and save Gulf free and harmless from any and all loss, cost and expense on account of death or injury to any person or persons, or damage to any property in any manner resulting from or growing out of the construction, use, operation, maintenance, repair, inspection, replacement or removal of said pipe line or lines, or the exercise of any rights granted to Providence hereunder or any of Providence's activities or those of its employees, agents, representatives, contractors, or invitees, while on Gulf's land or on areas adjacent thereto, or on areas in which Gulf may have any right, title or interest in connection with the right herein granted. In this connection, Providence agrees to pay all expenses, including attorneys' fees, necessary to defend and protect Gulf against any and all claims arising from or growing out of the construction, use, operation, maintenance, repair, inspection, replacement or removal of said pipe line or lines, or the exercise of any rights granted to Providence hereunder or any of Providence's activities or those of its employees, agents, representatives, contractors, or invitees, while on Gulf's land or on areas adjacent thereto, or on areas in which Gulf may have any right, title or interest in connection with the right herein granted.

BOOK 151 PAGE 425

agrees to reimburse Gulf for any damage to Gulf's property and to reimburse Gulf for any loss, cost, or expense in any manner growing out of injury or death to Gulf's employees resulting from or growing out of escaping gas from said line or lines, explosion or fires caused by escaping gas in any manner arising out of the installation, maintenance, operation, repair and removal of said pipe line or lines across the premises of Gulf or across areas in which Gulf may have any right, title or interest.

6. Providence agrees to comply and cause all persons and contractors working for it or engaged in construction, installation, repair, maintenance and operation of said line or lines to comply with Gulf's safety rules and regulations, of which Gulf will from time to time notify Providence.
7. All expenses in connection with laying said pipe line or lines shall be borne by Providence, and after said pipe line or lines are laid all necessary back-filling will be done by Providence and in a manner satisfactory to Gulf, so that the property will be left as presentable as it now is, and if it should become necessary for Providence to uncover the line or lines at any point for repairs, Providence agrees to do all necessary back-filling promptly after such repairs have been completed.
8. Providence agrees to reimburse Gulf for all taxes paid by Gulf to the Municipal Authorities, State or Federal Government in connection with the installation, maintenance, operation, repair or removal of said pipe line or lines from said property.
9. It is understood and agreed by and between the parties hereto that wherever the word "Land" or "Lands" is used in this agreement it shall include any riparian rights appurtenant thereto.

The rights herein granted to Providence are subject to all outstanding rights, rights-of-way, interests, restrictions, conditions or limitations.

This grant covers all the agreements between the parties and no representations or statements, verbal or written, have been made modifying, adding to, or changing the terms of this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this instrument, in duplicate originals, as of the 18th day of June, 1952.

PROVIDENCE
[Signature]

SEAL: GULF OIL CORPORATION
ATTORNEY:
[Signature]
Assistant Secretary

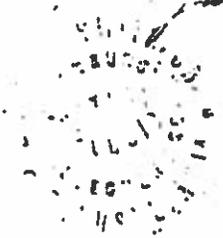
GULF OIL CORPORATION
[Signature]
Vice President

BOOK 151 PAGE 426

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF ALLEGHENY)

BEFORE ME, the undersigned authority, on this day personally appeared
H. G. MEADOR known to me to be the person and officer whose name
is subscribed to the foregoing instrument, and acknowledged to me that the
same was the act of Gulf Oil Corporation, a corporation, and that he executed
the same as the act of such corporation for the purposes and consideration
therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 15th day of
June 1952.



[Signature]
Notary Public, Commonwealth of
Pennsylvania, County of Allegheny

T. E. BREWSTER JR., Notary Public
MY COMMISSION EXPIRES
FEBRUARY 1, 1953

STATE OF RHODE ISLAND)
COUNTY OF PROVIDENCE)

BEFORE ME, the undersigned authority, on this day personally appeared
R. L. Fletcher known to me to be the person and officer whose name
is subscribed to the foregoing instrument, and acknowledged to me that the
same was the act of Providence Gas Company, a corporation, and that he executed
the same as the act of such corporation for the purposes and consideration
therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 23rd day of June
1952.



[Signature]
Notary Public, State of Rhode Island,
County of Providence

My Commission Expires
June 30, 1956

RECORDED

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GULF OIL CORPORATION

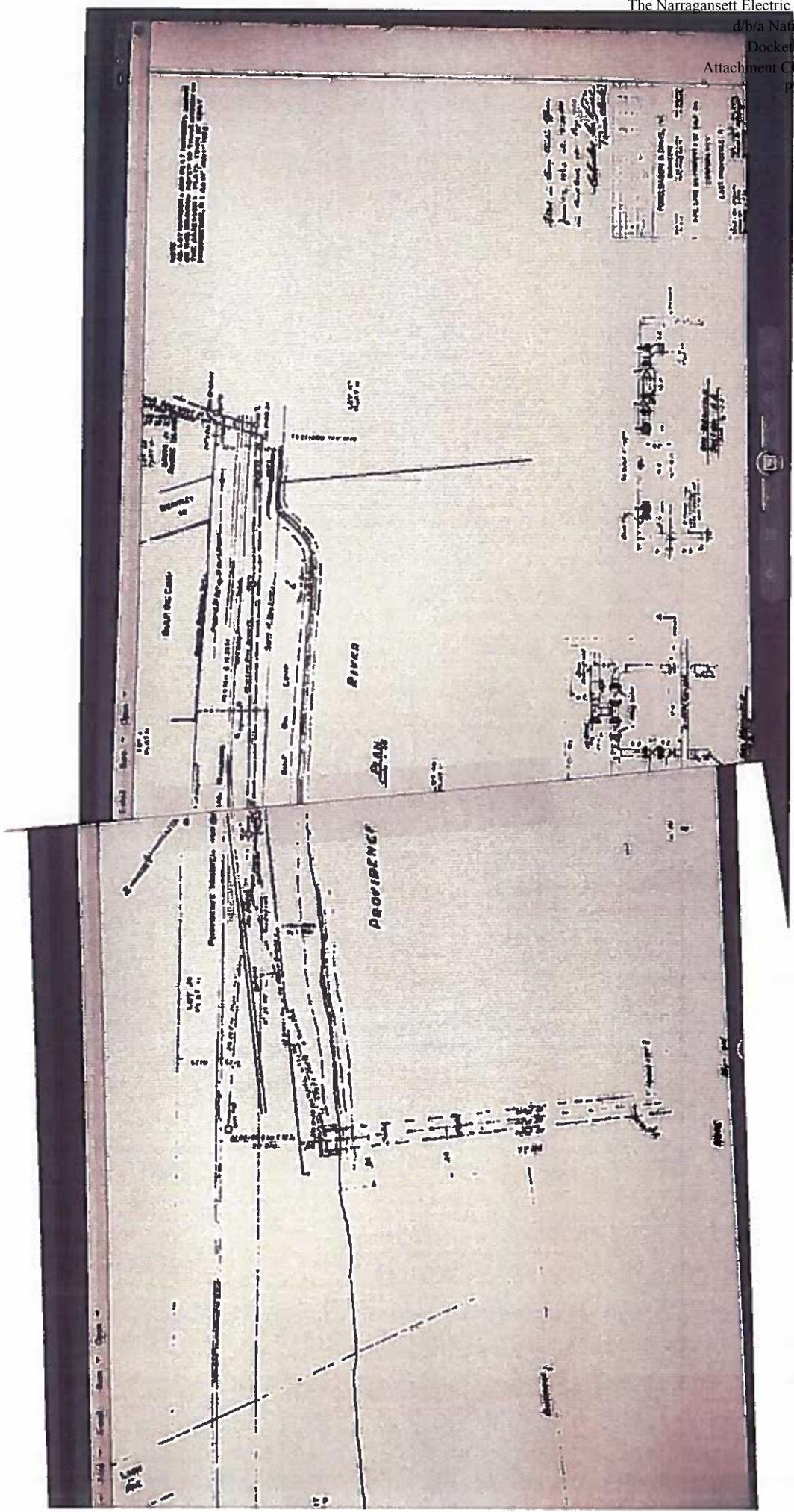
| Gulf Oil Corporation
| Providence Gas Company

AGREEMENT

Dated June 18, 1952

East Providence
City Clerk
July 27, 1952
Book 151
Page 423

Veterans Memorial Parkway
East Providence, RI



COMM 2-9

Request:

In Docket 4678, in response to COMM 1-6, the Company represented that “a forensic analysis of the tank condition that resulted in the decommissioning decision shall be undertaken to ascertain the cause(s).”

Did the Company undertake a forensic analysis of the tank condition prior to demolition? If not, why not? If so:

- a. Please describe the steps taken to undertake the forensic analysis.
- b. Please indicate whether outside consultants or vendors were used for a forensic analysis and if so, please provide the name, address, phone number and website address (if any) for the vendor providing the analysis.
- c. Please detail the costs associated with the forensic analysis.
- d. Please provide a copy of the written results or report provided to the Company by the vendor.

Response:

Yes, the Company completed a forensic analysis of the Cumberland liquefied natural gas (LNG) tank.

- a. The Company conducted two key inspection activities to evaluate the causes that led to the decommissioning of the Cumberland LNG tank. The first inspection occurred prior to demolition, on August 9 and 10, 2017, where the Company engaged ULC Robotics to conduct an internal camera inspection of the tank. The internal camera inspection included mapping of the interior surface area of the LNG tank using a high resolution camera. The Company provided forensic analysis procedures to support the camera inspection to the Division of Public Utilities and Carriers on May 22, 2017 (see Attachment COMM 1-1-4). The second inspection related to an external forensic investigation performed on November 8, 2017, after the tank was demolished, all debris removed, and the site tested for air quality prior to general access. This allowed personnel to gain clear access to the tank base plate on top of the concrete foundation to review for the potential of a thermal bridge that was hypothesized to have caused the abnormal (low) temperature detected under the foundation.

COMM 2-9, page 2

- b. Yes, the Company used outside consultants for the inspection activities referenced in the Company's response to part (a) above. The details for the consultants are set forth below.

Internal Camera Inspection:

ULC Robotics Inc.
88 Arkay Drive
Hauppauge, NY 11788
Phone: 631-667-9200
Web Address: www.ulcrobtics.com

External Tank Investigation:

CHI Engineering Services, Inc.
430 West Road
Portsmouth, NY 03801
Phone: 800 437-1995
Web Address: www.chiengineering.com

- c. Cost information for the forensic analyses is provided in the table below.

Vendor	Amount
ULC Robotics Inc.	\$10,667
CHI Engineering Services, Inc.	\$31,780
<i>Total</i>	\$42,447

- d. Please refer to the Company's response to Data Request COMM 1-3 for copies of the written reports.

COMM 2-10

Request:

In the 2nd Quarterly report in Docket 4678 (filed November, 2017) at page 2, the Company indicated that there was an underspending variance of \$1.16 million in the Non-discretionary work category. The Company stated: "to date for FY 2018, the Company has installed 8.2 miles of a planned 6.4 miles for the new gas main and has abandoned 5.0 miles of a planned 4.0 miles of leak prone pipe through the Public Works program."

- a) Is this statement accurate?
- b) If not, please explain.

Response:

The fiscal year-to-date spending as of September 30, 2017 resulted in an under-spending variance of \$2.58 million in the Non-Discretionary work category. The Public Work program contributed \$1.16 million of that total. The statement regarding installed and abandonment miles is correct. There are a total of 10 miles of planned Public Works abandonment for fiscal year 2018.

Redacted
COMM 2-11

Request:

In the 2nd Quarterly report in Docker 4678 (filed November, 2017) at page 3, the Company reported an overspending to date of \$1.58 million and indicated that the primary driver of the overspending to date was for purchase meter replacements driven by increased customer meter changes.

- a) Are replacement of meters driven by customer requests or is the replacement initiated by the Company?
- b) How many meter replacements were done?
- c) What is the cost per meter?
- d) Does the cost per meter include the labor for installation?
- e) Does the Company purchase meters in bulk? If so, does the Company secure any discounts for quantity. If so, what is the discount?

Response:

- a) The meter replacements included in the Fiscal Year 2019 Gas Infrastructure, Safety, and Reliability Plan are purchased to replenish meters stocks that are depleted as a result of the retirement of existing meters. Typical reasons for retirements include reductions to the aged inventory of meters or meter failure, which are normally associated with damaged or inaccurate meters.
- b) The Company purchased a total of 8,774 meters from April 1, 2017 to September 30, 2017.
- c) The average cost per gas meter is \$206.
- d) The average cost per gas meter does not include the labor for installation.
- e) National Grid takes delivery of bulk meter purchases at various times during the year. These meter purchases are based on negotiated fair market pricing with the Company's suppliers. The majority of meters are purchased under a three tiered pricing structure that provides a [REDACTED] discount based on the number of meters purchased.

COMM 2-12

Request:

In the 2nd Quarterly report in Docker 4678 (filed November, 2017) at page 3, the Company reported a projected \$1.7 million overspending by fiscal year end in the Damage/Failure Reactive Program, with the primary driver of the overspending relating to damage as a result of the replacement of the Admiral Street at Charles Street Regulator Station.

- a) Please itemize the cost of the damages.
- b) Please provide a copy of the “Damage Prevention Plan” identified in the report.
- c) Please identify whether the Damage Prevention Plan was, in the Company’s opinion, followed by the Contractor or not.
- d) Please identify whether the Company has filed any claims against either the City or its Contractor for reimbursement for any of the damages that caused this over expenditure. If so, please explain the status of that claim. If the Company did not seek any reimbursement, please explain why not?

Response:

- a) The total cost of the damage is estimated at approximately \$1.7 million. Replacement of the Admiral Street at Charles Street Regulator Station in Providence had previously been scheduled for replacement in Fiscal Year (FY) 2021. The current condition of the station required that the Company accelerate the replacement to FY 2018. Please refer to the table below for an itemization of the estimated costs.

Cost Category	Estimate (\$1,000s)
Contractors	\$876
National Grid Labor	\$54
Materials and Transportation	\$197
Overheads	\$414
Contingency	\$151
Total	\$1,692

- b) Details of the damage prevention plan (reviewed on site with City contractor R.P. Iannuccillo and Sons) required to provide for protection of the Company’s 16-inch cast iron low pressure gas main during proposed pile driving for the sewer repair are noted below:

COMM 2-12, page 2

- There is 32 inches of space between the gas main and the existing telephone ductbank. The sheet piles are 10 inches wide. The contractor will hug the duct bank with the piles so there will be a maximum clearance of 22 inches between the piles and the gas main. This procedure is required to ensure the protection of the gas main. The more clearance between the main and the piles the better. If the piles move and come within 12 inches of the gas main then shielding of the gas main will be required to protect the gas main from a possible strike.
- Contractor is required to use vibratory driving as opposed to impact driving for installation of the piles.
- Contractor plans to trench along the ductbank edge in order to avoid exposing the cast iron main. To the extent the main is exposed the Company will not allow more than 10 feet of cast iron and one bell joint to be exposed at one time. Based upon this the contractor should minimize the length of his trenching to 10 feet, install piles, backfill, then expose another 10 feet so as to ensure that no more than 10 feet of gas main is exposed. In the event that more than 10 feet does get exposed, support will be required and replacement of the section that was exposed.
- Any bell joint that becomes exposed will require encapsulation.
- It is required that the pile driving begin at a trench depth that is greater than the depth of the gas main so as to minimize the vibrations to the gas main.
- A seismograph will need to be placed over the gas main in the vicinity of the driving and the readings checked by the inspector on site. The reading cannot exceed 2.0 inches per second.
- Soil around, under, or near the gas main needs to be 100% compacted to avoid settlement and possible main damage. Soil around the gas main needs to be padding sand material.
- If the piles are to be left in place then the piles adjacent to the gas main will need to be cut to a depth of 2 feet below the depth of the gas main to allow for trenching along the side of the gas main for maintenance and repairs.
- An inspector will need to visit the site to be sure the measures are being used.

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- c) Yes, the Company concluded that the contractor followed the damage prevention plan.
- d) The Company has not filed a claim against the City or its contractor. As noted in the Company's responses to parts (b) and (c) above, a damage prevention plan was in place and followed by the contractor. In this case, the plan did not prevent damage to the station. The Company concluded that it would not seek reimbursement because the contractor complied with the plan.

COMM 2-13

Request:

In the 2nd Quarterly report in Docket 4678 (filed November, 2017) at page 4, the Company reported that demolition of the Cumberland LNG tank commenced on October 10, 2017 but that an external forensic inspection was completed on November 8, 2017.

- a) Are these dates accurate? Please explain.

Response:

Yes, demolition of the tank structure commenced on October 10, 2017. The external forensic investigation was conducted and completed on November 8, 2017 after the tank was fully demolished, all debris removed, and the site tested for air quality prior to general access.

The external forensic investigation had to be conducted after the tank was fully removed and there was clear access to the tank base plate on top of the concrete foundation. This state of the demolition allowed the investigation of a potential thermal bridge that was hypothesized to have caused the abnormal (low) temperatures detected under the tank foundation.

COMM 2-14

Request:

In the 2nd Quarterly report in Docket 4678 (filed November, 2017) at page 4-5, the Company reported that it had met with Division personnel to review the disposition plans of major components of the Cumberland LNG plant and that the Company would continue to update the Division as information became available.

- a) Please provide a list of the major components of the Cumberland LNG plant, the planned or proposed disposition of each component and the status of each component today.

Response:

Please refer to the Company's response to Data Request COMM 1-5 for the requested information.

COMM 2-15

Request:

In the 2018 Gas ISR, the Company proposed replacement of 14,300 meters at a cost of \$2.37 million. In the 2019 Gas ISR, (at Bates page 28) the Company is proposing to replace 21,151 meters (7.7% of the existing meter population) at a cost of \$4.37 million.

- a) Explain and itemize the \$4.37 million for the Purchase Meter Replacement program. Include the total number of customer meters throughout the system, how many were replaced through FY18 and the cost thereto, and how many additional meters will be replaced in FY19.
- b) Why is there such a substantial increase in the number of meter replacements in FY 2019?
- c) Can any of the meter replacements proposed for FY 2019 be deferred to future years, without impacting safe and reliable service to customers? If not, why not. If yes, please identify the quantity that may be deferred and for how long.
- d) What process does the Company use to determine how many meters will be replaced and where?
- e) Should the Purchase Meter Replacement program continue to be included in the Gas ISR? Why not include this cost in base rates? If included in both, what adjustments will be made in September, 2018?

Response:

- a) The \$4.37 million for the Purchase Meter Replacement program is broken down in the below table by materials, tax, shipping, capital overheads, and meter shop labor. The first part of the table consists of the residential (250/400 class) diaphragm meters. The next part consists of the commercial and industrial large diaphragm meters, rotary meters, and turbine meters. Lastly, for the material portion is the breakdown of the correctors and gas Encoder Receiver Transmitters (ERTs) planned for Fiscal Year (FY) 2019. Tax, shipping, capital overhead, and meter shop labor are also factored into the \$4.37 million for the Purchase Meter Replacement program.

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FY19 RI			
Summary	Units	Cost Per	Total Costs
250 Class Meters	17,160	\$59	\$1,012,440
400 Class Meters	3,542	\$124	\$439,208
LG Dia Class Meters	323	\$551	\$177,973
Rotary Meters	125	\$1,124	\$140,500
Turbo Meters	1	\$15,500	\$15,500
Correctors	55	\$1,383	\$76,074
Itron ERTS	21,151	\$53	\$1,126,291
Sub-Total Material			\$2,987,986
Tax			\$209,159
Shipping			\$16,441
Capital Overhead			\$604,103
Labor			\$552,770
Grand Total			\$4,370,459

The total number of customer meters throughout the system is broken down below.

Region	Active	Inactive	Total
Narragansett Elec. (NECO)	266,184	11,323	277,507

The Company expects to purchase a total of 12,774 gas meters for a total of \$3.1 million in FY 2018. The plan is to purchase an additional 8,377 gas meters in FY 2019.

- b) Meter replacements are increasing in FY 2019 to address the Company's aged meter backlog. The Company's policy focuses on reducing the population of meters greater than 30 years old. Existing regulations require that the Company change and test residential meters every 15 years. The Company will reinstall meters that meet the testing requirements. Installation of meters that are greater than 30 years old leads to increased risk of failure, as such meters may not come back for testing until they are 45 years old. As a result, the Company is seeking to reduce the occurrences of installing meters that are greater than 30 years old.

COMM 2-15, page 3

- c) The proposed meter replacements for FY 2019 can be deferred to future years without impacting safe and reliable service to the Company's customers. However, the more meters that get deferred will be added to the Company's aged meter backlog. The number of meters that can be deferred will change every year and will have to follow the steps explained in part (d) below.
- d) The Company analyzes the current and upcoming backlog of aged meters and creates the annual plan based on the number of aged meters, current employees, and meter availability. The long term meter exchange plan calls for a gradual increase of aged meter replacements each year until such time that the annual plans are relatively equal, thus reducing any large fluctuations and allowing the Company to better anticipate employee and other resource requirements. The location of where the meters will be changed is based on the responses of the customers.
- e) Yes, the Purchase Meter Replacement program, similar to all other projects included in the Gas Infrastructure, Safety, and Reliability (ISR) Plan, should continue to be included in the ISR. Meters that have been replaced and that have been included in the ISR since the Company's last base rate change on February 1, 2013 will be included in rate base effective September 1, 2018. At that time, the unrecovered cost of those meters will cease being recovered through the ISR, which will be set to \$0 on September 1, 2018, and will be recovered instead through base rates. The Company will reconcile and true-up all ISR investment, including replaced meters, with base rate recovery as part of its FY 2019 ISR reconciliation, which the Company will file by August 1, 2019. Any over/under recovery will be returned to/recovered from customers during the period November 1, 2019 to October 31, 2020. Please also see the Company's response to Data Request COMM 2-27.

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COMM 2-16

Request:

At Bates page 31 of the 2019 Plan, the Company indicates that it proposes to spend \$0.87 for the restoration of the Cumberland LNG site. Please provide a detailed budget of these funds.

Response:

The proposal for spending \$0.87 million in Fiscal Year (FY) 2019 was intended to address final site restoration and the construction of a storm water management system. After further review, the Company has determined that the existing drainage system at the Cumberland plant will remain in service to handle rain water, so this work is no longer needed. As a result, the Company is updating the FY 2019 Gas Infrastructure, Safety, and Reliability Plan filing to exclude this project. The resulting change to the revenue requirement will be included along with the impacts associated with The Tax Cuts & Jobs Act.

COMM 2-17

Request:

At Bates page 36 of the 2019 Gas ISR plan, the Company indicates that it plans to replace 3,826 service relays, inserts or tie-ins under its Discretionary Work plan.

- a) In 2018, the Company's plan to replace 3000 service relays, inserts or tie-ins was approved. Why is there such a substantial increase in the number of service relays, inserts or tie-ins replacements in FY 2019?
- b) Can any of the service relays, inserts or tie-ins replacements proposed for FY 2019 be deferred to future years, without impacting safe and reliable service to customers? If not, why not. If yes, please identify the quantity that may be deferred and for how long.
- c) What process does the Company use to determine how many service relays, inserts or tie-ins will be replaced and where?

Response:

- a) The number of planned services in the Company's Fiscal Year (FY) 2018 Gas Infrastructure, Safety, and Reliability Plan was understated. This total should have been reported as 3,472. The number of service relays, inserts, and tie-ins planned to be completed in a given year under the Proactive Main Replacement Program is determined by the scopes of the projects that make up the program. Any service that is connected to a main that will be abandoned as a part of a planned project will need to be either relayed, inserted, or tied over to an existing or newly installed gas main. The service density in the neighborhoods where the planned projects are taking place determines how many service relays, inserts, and tie-ins will be completed in a given year. The increase in service relays, inserts, and tie-ins seen from the FY 2018 Proactive Main Replacement Program to the FY 2019 Proactive Main Replacement Program can be attributed to the fact that more projects are being planned in areas with a higher service density.
- b) All services within the Proactive Main Replacement boundaries must be relayed, inserted, or tied over in order to abandon the existing leak-prone pipe. Accordingly, deferral of service work would delay leak reduction benefits that represent the primary objective of the Proactive Main Replacement program.
- c) The number and locations of service relays, inserts, and tie-ins planned to be done in a given year under the Proactive Main Replacement Program are directly related to the sections of main that are identified for abandonment. Main segments are prioritized for

COMM 2-17, page 2

replacement based on the Company's Distribution Integrity Management Plan (DIMP). The DIMP prioritization is based upon consideration of, among other things, leak repair history, types of leak, pipe material, surrounding geography, segment length, nearby construction activity, field conditions, customer issues, open leaks, and engineering judgement.

COMM 2-18

Request:

At Bates page 38 of the 2019 Gas ISR plan, the Company represents that it needs to spend \$0.50 million to upgrade its telemetry devices because of a Verizon upgrade from 3G network to a 4G network, as well as convert 700 meters from MV90 to Metretek.

- a) Please break out the costs for each element of this proposal.
- b) Please identify whether or not the telemetry upgrade is anticipated to continue beyond this year. If so, please present an anticipated schedule.
- c) Please identify whether or not the meter conversion is anticipated to continue beyond this year. If so, please present an anticipated schedule.
- d) Please explain the difference between the meters being converted under this section of the plan vis a vis the meters being replaced under the meter replacement program set forth under Mandated Programs.

Response:

- a) The table below shows proposed project cost estimates.

Description	Total Units	Unit Cost	Total Cost
CNI4 - Pulse Accumulator - IP 4G Wireless	320	\$ 950.00	\$304,000.00
Elevated Pressure > 2 PSI - Corrector	50	\$ 1,300.00	\$ 65,000.00
Installation Costs	460	\$100	\$ 46,000.00
IS System Consolidation & Interface Cost			\$85,000
Total Cost			\$500,000.00

(Installation costs = 460 hours)

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- b) The plan is to consolidate the existing 700 customer accounts into a common Meter Collection System with 320 collection devices being completed by Fiscal Year (FY) 2020. The decommissioning of the existing system is planned in FY 2019 and any remaining devices in FY 2020.
- c) This is not a meter conversion project. This is a replacement project for existing meter collection devices to be replaced with IP 4G wireless devices. The plan is to replace 320 existing meter collection devices in FY 2019 with the potential for carryover to FY 2020.
- d) The Meter Replacement Program is for replacing residential and commercial and industrial meters due to age or meter failure. In contrast, this program is to replace the battery powered meter collection device which obtains readings from the meter and transmits the reading to the Meter Collection System. The readings are utilized for Daily Gas Nominations and Customer Billing. The System has 700 active collection devices that interface with the customer meter on site and send readings to the Meter Collection System. The Meter Collection System interfaces with the Daily Gas Nomination System and the Customer Billing System. This population of collection devices and meters is related to commercial and industrial meters that are on a tariff rate that require hourly meter reads.

COMM 2-19

Request:

At Bates page 39 of the 2019 Gas ISR plan, the Company represents that it needs to spend \$1.03 million for its System Automation and Control programs in order to provide alternating current (AC) power, telemetry, and/or remote control to approximately 40 locations.

- a) Have the locations in need of this work been identified? If so, please provide a list.
- b) Please identify with specificity what work is required for each location.
- c) Is the list of locations prioritized?
- d) If this work was not fully funded or partially funded for the upcoming year, please explain how the Company would monitor and control the regulator stations. How is that work being accomplished at these regulator stations today?

Response:

- a) A preliminary list of 12 locations for this work has been identified, and is included in the table below. Prior to the start of the construction season, installations for an additional 15 to 20 locations will be identified in conjunction with Instrumentation and Regulation, Gas Control, and Long-Term Planning. Pending analysis of system performance during the current heating season, which is performed throughout the summer, up to approximately 10 additional sites will be identified for telemetry equipment install in the fall to help monitor pressures at system low points.

Street Location	Town	Scope of Work
Park Ave @ Hayward Ave	Cranston	New Traffic Box w/ Control
Sanford St @ Myrtle St	Pawtucket	New Traffic Box w/ Control
Bourdon Blvd @ Asylum St	Woonsocket	New Traffic Box w/ Control
Rockland Ave @ Morse Ave	Woonsocket	Replace paper chart with Telemetry
Bailey St @ Ballou St	Woonsocket	Replace paper chart with Telemetry
West Highland Ave @ High St	Cumberland	New Traffic Box w/ Control
Charles St @ Mineral Spring Ave	North Providence	New Traffic Box w/ Control
68 Scott Rd GS	Cumberland	Replace legacy RTU
68 Scott Rd GS	Cumberland	Install check metering transmitters
135 Old Mill Ln GS	Portsmouth	Replace legacy RTU
Wellington Ave @ Well Ave	Cranston	New Traffic Box w/ Control
Fountain Ave @ Dyer Ave	Cranston	New Traffic Box w/ Control

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- b) The work at the locations listed above consists of replacing paper chart recorders with modern digital pressure recorders and transmitter equipment, installation of AC-powered traffic boxes with control capability (which provide Gas Control the ability to remotely raise and lower outlet pressure set points), installation of check metering transmitters at gate stations, and the replacement of legacy remote terminal unit (RTU) equipment at gate stations.
- c) The list of work is prioritized based on the current level of system visibility and the need for control, based on the frequency with which regulator set point adjustments are required. Additional prioritization is conducted during the year based on the availability of resources and the ability to get permits when working in a public right of way.
- d) Fully funding this program improves the ability of the Company to monitor and adjust system pressures in real-time. If this program were partially funded, the Company would monitor system pressures using paper chart recorders, which are read periodically when technicians visit the site, and, where available, other telemetry points on integrated distribution systems. Without remote control capabilities, Instrumentation and Regulation crews must be dispatched to manually raise and lower regulator set points at each station location.

COMM 2-20

Request:

At Bates page 40 of the 2019 Gas ISR plan, the Company indicates that it plans to spend \$0.80 million for the construction phase of a gas heater installation program at the Company's Cranston gate station.

Please explain the increase in funding from \$200,000 in FY18 to \$800,000 in FY19. Include in your response:

- a) How many heaters were replaced in FY18? Where were the heaters located? How much was the cost of each heater. How many remain to be replaced or installed?
- b) Is the request for funding for heaters for the Cranston gate station only in FY19? How many heaters does the funding cover? How many are currently at the Cranston gate station?
- c) Please indicate whether the construction phase of this program may be placed on hold for a year without impacting safe and reliable service to ratepayers.

Response:

- a) In Fiscal Year (FY) 2018, the Company allocated \$200,000 for the design of the Cranston gate station heater replacement project, as well as the purchase of long lead time materials for this project. No heating systems were replaced in FY 2018.
- b) The FY 2019 request for \$800,000 will fund the construction and installation of the replacement heating system at the Cranston gate station. This project will replace two existing boilers at the Cranston gate station with three new boilers, and replace the single gas heat exchanger with two new gas heat exchangers.
- c) Gas pipeline heaters are utilized to maintain proper gas temperature as gas enters the distribution system. If heaters fail to operate properly during periods of cold weather and gas temperatures are allowed to drop, this can result in freezing concerns for downstream equipment, including regulators and customer services. This replacement project results in a more reliable system with redundant equipment. Delaying this project for a year does not pose a serious safety risk to the ratepayers; however, the reliability of the heating system would continue to degrade over time.

COMM 2-21

Request:

At Bates page 41 of the 2019 Gas ISR plan, the Company indicates that it plans to spend \$2.67 million to replace two regulator stations in East Providence and one in Johnston.

- a) Please provide an estimate of costs for each of the three regulator stations.
- b) Please explain how these particular stations were chosen for replacement in FY 2019.
- c) If funding were available for less than three stations, please identify a priority order.

Response:

- a) The two regulator station replacements located in East Providence are planned to be replaced as a single project, which is estimated to cost \$1.73 million. The regulator station replacement project in Johnston is estimated to cost \$0.82 million. The remaining \$0.12 million will fund the design and development of pressure regulating facilities work in future years.
- b) These stations have been selected for replacement in Fiscal Year (FY) 2019, in part, using data compiled from condition-based assessments based on the criteria outlined in the FY 2019 Gas Infrastructure, Safety, and Reliability Plan on Bates page 41. The results of these assessments are considered in addition to system conditions, potential for synergy projects, recent station performance, and other factors to determine the program work plan. Each of these stations has an assessment score that supports its replacement. The prioritization of station replacements will be updated during the course of the year based on current information, including changes in asset condition and carryover of prior year construction.
- c) If funding for this program was reduced, the single project addressing the two stations in East Providence would be prioritized first, and the station in Johnston would be prioritized second.

COMM 2-22

Request:

At Bates page 42 of the 2019 Gas ISR plan, the Company indicates that it plans to spend \$1.47 million for four projects in its Gas Planning programs; two will assist in eliminating single-feed systems and two will address the relocation of flood-prone regulator stations.

- a) Please identify the locations of the four projects.
- b) For the flood-prone locations, please identify at what times the sites have experienced flooding and to what degree. If there is photographic evidence of flooding please provide the same.
- c) Please explain the necessity and/or benefits of replacing single feed systems.

Response:

- a) 1. Quinn Lane, Lincoln (single-feed elimination);
2. Narragansett Park Drive, East Providence (single-feed elimination);
3. Foxhill Road and Cole Street, Bristol (flood-prone regulator station relocation); and
4. Collins Street at Wood Street, Bristol (flood-prone regulator station relocation).

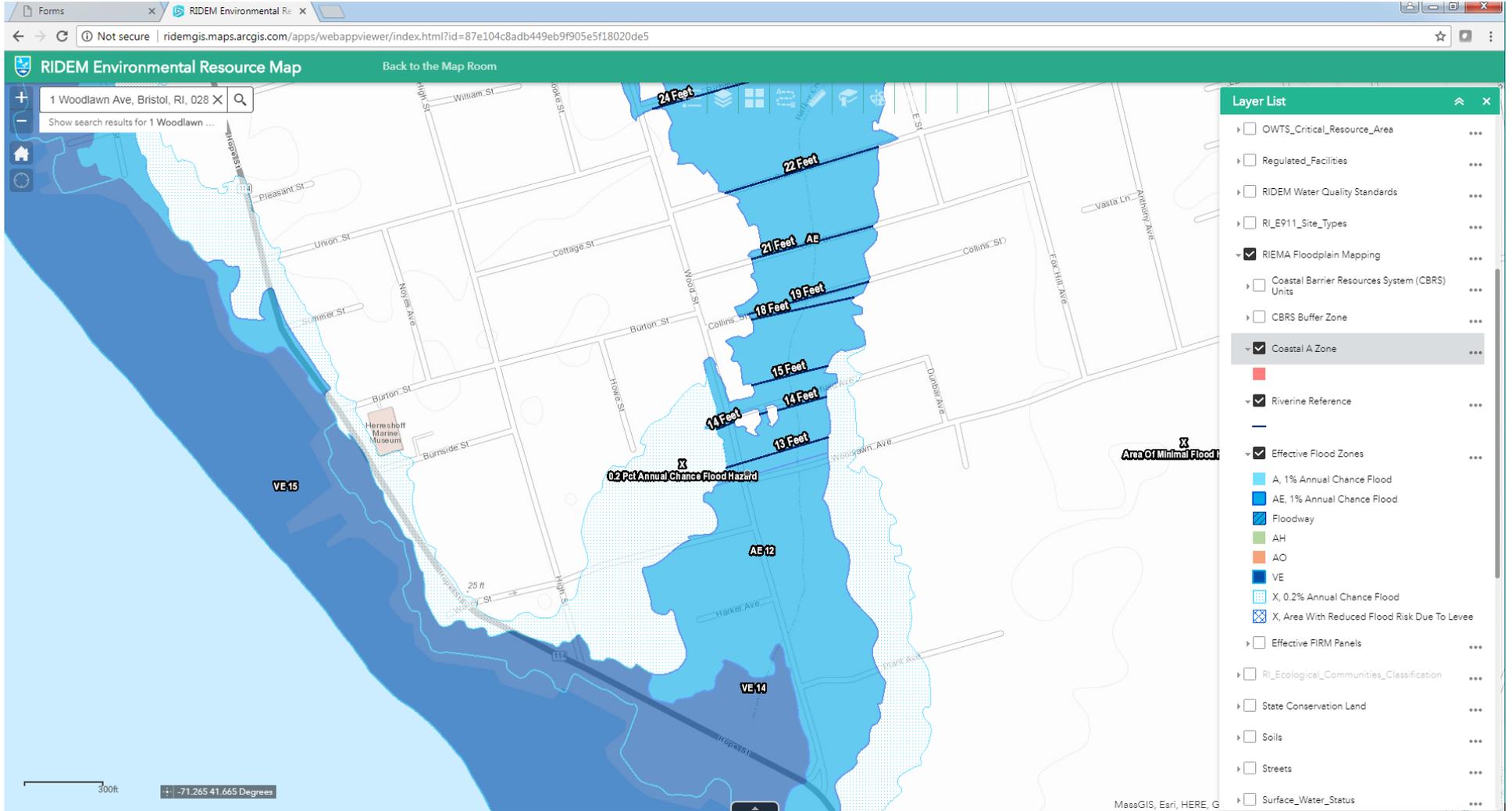
Please note that Projects 3 and 4 in Bristol are two phases of work required to relocate the Woodlawn Avenue at Wood Street low-pressure regulator station out of the flood zone to Collins Street at Wood Street. Project 3 involves installing approximately 1,250 linear feet of plastic distribution main to facilitate using the new site. Project 4 involves the installation of a new low-pressure regulator station at the new site and abandonment of the existing low-pressure regulator station.

- b) The flooding that has occurred in the vicinity of the Woodlawn Avenue at Wood Street low-pressure regulator station has resulted in customer outages due to water getting into the low pressure mains. One such example of this occurred on March 31, 2014 when gas service was interrupted to at least three homes on Hope Street in Bristol. There was also significant flooding in the area in September 2012 that included regulator station flooding. This caused abnormal regulator operation, resulting in an over-pressurization of the low-pressure distribution system. Please see Attachment COMM 2-22 for a map showing Wood St and Woodlawn Avenue within the flood zone.

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- c) Distribution systems that are supplied gas through a single district regulator station are considered single-feed systems. Single-feed systems are eliminated by connecting them to larger distribution systems. The following reliability benefits are associated with doing this. First, it creates new connections into distribution systems for better supply into the distribution system. Second, it reduces the possibility of customer outages in the event of an abnormal operation issue or third-party damage to a regulator station. Third, it can prevent accidental over-pressurization of smaller distribution systems with few customers due to issues with regulators being able to maintain their set point under low flow conditions. Fourth, in some cases a regulator station can be abandoned once the isolated system is connected to the larger distribution system, thus providing operational benefits by reducing the inventory of regulator stations.

Attachment A – Flood Zone Map in the vicinity of Wood St and Woodlawn St



COMM 2-23

Request:

At Bates page 43 of the 2019 Gas ISR plan, the Company indicates that a portion of the funding under “LNG” is for the blanket program for the Exeter LNG plant.

- a) Please describe with specificity the amount that is anticipated to be allocated to the blanket program for the Exeter LNG plant.
- b) Please describe the blanket program for the Exeter LNG plant.

Response:

- a) The Company developed the LNG Blanket spending plan based on the average of actual spend for 2016 and 2017 inflated to 2019, which resulted in a budget of \$0.04 million.

The following are examples of the types of reactionary projects that would be included in the LNG Blanket spend:

Plant	Blanket Project
EX	Exeter SCADA Upgrade
EX	Exeter Tank Coating Upgrade
EX	Exeter New Instrument Air Compressors
EX	Exeter Evaluate Splash Shield for Inspection Distance
EX	Exeter Flow Control Valve Upgrades
EX	Exeter Boiler Management System Obsolescence
EX	Permanent Storage To Remove Conex Rental
EX	Exeter Pipe Insulation Upgrade
EX	Exeter Regrade Tank Area
EX	Exeter AC Unit For Truck Skid
EX	Exeter Sendout Regulator Replacements
EX	Exeter Install new Instrument Air Line for FCV-225
EX	Exeter Reactive Minor Capital

- b) The LNG Blanket program is intended to fund small capital facility upgrades and replacements of existing plant support equipment. Upgrades to existing facility equipment may include compliance with original equipment manufacturer recommendations, replacement of obsolete or unsupported control system components, and other small capital equipment replacement projects as they arise. The LNG Blanket program is in part allocated for reactionary spending.

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COMM 2-24

Request:

At Bates page 44 of the 2019 Gas ISR plan, the Company indicates that it plans spending of \$0.43 million for capital tools and equipment.

Please provide an itemized list of the tools and equipment the Company anticipates purchasing.

Response:

The Company's Fiscal Year 2019 capital tools and equipment capital spend is not based on an itemized list of the tools and equipment.

The Company developed the capital tools and equipment spending plan based on the average of actual spend for 2016 and 2017 inflated to 2019.

The following are examples of tools and equipment purchases:

Tool Name	Brief Description
Jackhammer	Used to break pavement and stone to gain access to buried gas mains.
Tamper	Used to compact soil after completing work
Squeeze offs - 2 in. to 8 in.	Used to temporarily stop the flow of gas.
Hydraulic Squeeze Offs	Used to temporarily stop the flow of gas.
Combustible Gas Indicators	Used to detect the percentage of gas in the area
Stopper Bags - 2 in. to 24 in.	Used to temporarily stop the flow of gas.
Manhole Lifter	Used to lift manhole when investigating leaks.
Clamps- rests on pipe	Used to seal piece of pipe while working on job site.
Pyrometers	Checks temperature of weld or fuse on pipe.
Fusion Boxes	Regulates the flow of gas for fusion cutting equipment. Must be calibrated.
Electric Sweepers	Cleans job site when completed. Fast automated clean up. Electric broom.
Fusion Cutters	Torch that cuts, soders at high temps. Welding.
Mcilroy Fusion Device - 36 in.	Fusion device that holds two pieces of pipe and through induction heat welds the plastic pipe together.

COMM 2-25

Request:

On Bates Page 47, Exhibit JBC-1, please explain what is driving the \$30 million increase in costs, particularly with regard to Discretionary spending, from FY19 to FY21, which jumps from \$66 million to \$96 million.

Response:

The following four programs are contributing to the majority of the Fiscal Year (FY) 2021 increase in Discretionary spending.

Proactive Main Replacement

The majority of the increase is attributed to the Proactive Main Replacement program, which is increasing from \$53 million to \$72 million, for a total increase of \$19 million. As noted in the FY 2019 Gas Infrastructure, Safety, and Reliability Plan (the Plan) on Bates page 37, the Company deferred work on the Proactive Large Diameter program to focus on more emergent projects. Under the current five-year plan, this program is planned to resume in FY 2020 for approximately \$4 million. The remaining \$15 million increase is due to increased installation and abandonment miles for the Proactive Main Replacement Program (<16 inch). As noted in the Plan on Bates page 36, in FY 2019 this program will install 43 miles to abandon 50 miles. This differential is largely due to the existence of parallel mains. The five-year plan does not account for future parallel mains and assumes that installation miles will equal abandonment miles. This results in an increase of seven installation miles along with an additional five installation miles to get the program back on track with its annual goal of 65 miles of annual leak-prone pipe abandonment. The FY 2019 Plan provides for total abandonment of 60 miles.

Pressure Regulation

The Company has reduced the spending in Pressure Regulating Facilities in recent years, and correspondingly has reduced the replacement rate for regulator stations, to prioritize funding in other parts of the portfolio. This has resulted in an increase to the number of stations remaining in service past the recommended replacement timeframe. The Company is proposing to increase spending in this category by \$2 million in FY 2020 and a further \$2 million in FY 2021 to raise the regulator station replacement rate back to prior levels that address the risks of this aging infrastructure.

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Storm Hardening

The Company is planning to begin a Storm Hardening Program in FY 2021 for approximately \$3 million. The Storm Hardening Program will install remote service valves with flood sensors that will automatically shut off gas to structures experiencing flooding. In addition to shutting off service, the Company will be able to capture an accurate count of services impacted by flooding real time, which will allow the Company to focus on restoration to the impacted customers.

Exeter LNG Emergency Shutdown System

In FY 2021, the Company is planning to install an automatic Emergency Shutdown System at the Exeter LNG facility for approximately \$3 million. The Emergency Shutdown System will incorporate modern technology to automatically react to potentially hazardous events and intelligently shut down the equipment to leave the facility in a safe state.

COMM 2-26

Request:

If the Company was requested to cut its proposed discretionary spending by \$4.0 million, where would it make the cuts? What impact would there be on the revenue requirement?

Response:

The Fiscal Year (FY) 2019 Discretionary spend category totals \$66.18 million. The largest line item in the Discretionary spend category is the Proactive Main Replacement Program. The Proactive Main Replacement Program reflects 80% (\$52.80 million) of the Discretionary spend.

Prior to the submission of the FY 2019 Gas Infrastructure, Safety, and Reliability (ISR) Plan, the Company took steps to mitigate additional increases to spending in the Proactive Main Replacement Program. The Company strategically identified main projects that abandoned approximately 49.7 miles of leak-prone cast iron, unprotected steel main with a diameter of less than 16 inches, plus the renewal, abandonment, or tie-over of existing services at the cost of installing of 42.8 miles of new main. With installation costs exceeding \$1.0 million per mile, this translates to a capital spending reduction of approximately \$7.0 million.

In addition, the Company deferred from FY 2019 to FY 2020 approximately \$4.16 million of Cast Iron Joint Sealing Robot (CISBOT) projects and cured-in-place reconditioning of large diameter cast iron and steel main jobs to control Proactive Main Replacement Program spending to focus on more emergent projects in FY 2019.

Of the remaining 20% (\$13.38 million), approximately 11% (\$7.45 million) is for specific Gas System Reliability projects. These projects include the following: Allens Avenue Multi-Station Rebuild, Pressure Regulating Facility – Willet Avenue at Forbes Street, Take Station Rebuild, Heater Installation Program - Cranston Gate Station, LNG - Exeter Boil Off Compressor 2, and Gas System Control - Metretek MV Conversion Project.

The projects detailed above, along with the remaining Gas System Reliability projects, are required to maintain sufficient monitoring and control capability in the gas distribution system to ensure safe and reliable operation.

If the Company was required to cut \$4.0 million from Discretionary spending, it would likely need to consider further reductions to the Proactive Main Replacement program. This level of spending reduction would require a three to four mile reduction in main installation and abandonment. However, the Company does not recommend further reductions to this program. In January 2018, the Company experienced a 107% increase in Grade 1 leak receipts when

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compared to January 2017. This is directly attributed to the record cold temperatures in December 2017 and January 2018 and the thaw that followed, highlighting the importance of properly funding the Proactive Main Replacement program to support the safe and reliable operation of the gas distribution system.

The estimated revenue requirement impact of the proposed \$4.0 million reduction to Discretionary spending is approximately \$197,000.

COMM 2-27

Request:

Does the funding requested herein duplicate funding requested in the pending Rate case, Docket 4770 or Power Sector Transformation, Docket 4780?

Response:

The funding requested herein does not duplicate funding requested in the pending rate case, Docket No. 4770, or Power Sector Transformation, Docket No. 4780.

Regarding the pending rate case, the Company's rate base in the base rate case proceeding for all Infrastructure, Safety, and Reliability (ISR)-eligible plant investment is based on actual plant investment incurred through the end of the June 30, 2017 test year, plus a projection of rate base through the end of the rate year (August 31, 2019) based on the Fiscal Year (FY) 2018 level of capital investment approved by the Public Utilities Commission. This projection of ISR-eligible rate base through the end of the rate year is only a level of capital investment used to establish base rates. However, these projected capital investment amounts will ultimately be reconciled to actual investment as part of the Company's FY 2018, FY 2019, and FY 2020 Gas ISR reconciliation filings. As a result, the Company will recover no more, and no less, than the actual revenue requirement on actual ISR-eligible investment. There is no overlapping recovery of any ISR-eligible costs in base rates and the ISR.

The revenue requirement on this cumulative Gas ISR capital investment is inherently a part of the Company's overall revenue requirement to be recovered through base distribution rates effective September 1, 2018. On this same date, the Gas ISR factors through which the Company has been recovering the revenue requirement on the ISR capital investment included in the rate year's rate base will reduce to zero, as the recovery of this capital investment will commence in base distribution rates. The ISR Plans are subject to full reconciliation for actual capital investment and revenue billed through the ISR factors to recover the Gas ISR Plan revenue requirement. Therefore, because the Company has reflected an estimate of Gas ISR plant additions through the end of the rate year in its general base rate case, the Company will include as part of its annual reconciliation filings the difference between the estimated plant additions included in the general rate case in the rate year and the comparable actual ISR plant additions for the ISR Plans to which they relate. The Company will calculate the revenue requirements on any difference in actual and estimated ISR plant additions recovered through base distribution rates, and will include the recovery or refund of the revenue requirement on the difference as part of determining the applicable Gas ISR reconciliation factors that would become effective on November 1. Because of the timing of the Company's Gas ISR reconciliation periods (its fiscal year ending March 31) and the timing of those filings, and the

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end of the rate year in this general rate case (i.e., August 31, 2019), this “true up” for actual vs. estimated ISR plant additions included in the revenue requirements recovered through base distribution rates would take place in two ISR reconciliation filings filed by August 1, 2019 (for the fiscal year ended March 31, 2019) and August 1, 2020 (for the fiscal year ended March 31, 2020).

COMM 2-28

Request:

How was the \$29.06 million for projected growth and allocated spending for FY 2019 calculated and provide a table that reflects this year's projection compared to the last 3 years of actual growth.

Response:

The \$29.06 million for projected growth and allocated spending for Fiscal Year (FY) 2019 referenced in the FY 2019 Gas Infrastructure, Safety, and Reliability (ISR) Plan at Bates page 25, footnote 8, currently states as follows:

“For FY 2019, the Company plans to spend \$136.14 million of total capital investment. Of that total amount, \$29.06 million will be for projected growth and allocated spending, which is not included for recovery in the FY 2019 Gas ISR plan.”

Based on the current FY 2019 investment plan, this footnote should be updated as noted below:

“For FY 2019, the Company plans to spend \$137.24 million of total capital investment. Of that total amount, \$28.56 million will be for projected growth, which is not included for recovery in the FY 2019 Gas ISR Plan.”

The \$28.56 million for growth investment is calculated based on three methods:

1. Forecasted units multiplied by historic actual unit cost for Base Growth - Install New Main, Base Growth - Install New Services, and Base Growth - Meter Purchases.
2. Historic spend inflated to 2019 for Base Growth - Customer Contributions, Base Growth - Install Meter/Regulator, and Base Growth - Fitting Cost.
3. Project Estimates for Gas System Reinforcement projects.

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The table below provides the FY 2019 projection compared to the last three years of actual growth.

(\$M)	FY15 Actual	FY16 Actual	FY17 Actual	FY19
Base Growth - Install Main	11.53	3.55	5.50	5.96
Base Growth - Install Services	10.95	8.83	7.29	9.39
Base Growth - Customer Contributions	(3.24)	(0.84)	(0.43)	(0.46)
Base Growth - Install Meter/Regulator	0.83	0.75	0.53	0.55
Base Growth - Fitting	-	0.19	0.17	0.18
Base Growth - Meter Purchases	0.86	0.69	0.68	0.82
Gas System Reinforcement	2.30	6.74	4.98	12.12
Total	23.23	19.91	18.72	28.56

COMM 2-29

Request:

Please update the Commission on the Providence River Crossing signage project. Is it complete?
On budget?

Response:

The east side has been completed with re-mobilization of the west side expected to begin in mid-February. Construction is expected to take six weeks. Weather issues and gas safety coordination contributed to the initial carryover of this project to Fiscal Year (FY) 2018. In FY 2018, construction was delayed due to the prioritization of the river cross riser replacement project and the detection of severe corrosion issues identified in the signage structural members. This resulted in the need for project redesign, which included modifications to the existing foundations to carry additional load from new heavier structural members. FY 2018 costs are forecast to be \$0.68 million. There was no budget in the FY 2018 Gas Infrastructure, Safety, and Reliability Plan for this project. Total project costs, including carryover, are forecast at \$0.88 million on an original project budget of \$0.4 million.

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COMM 2-30

Request:

Explain how the \$500,000 Operating & Maintenance personnel cost will be adjusted assuming these costs are transferred back to base rates in September 2018.

Response:

For Gas Infrastructure, Safety, and Reliability recovery purposes, the \$500,000 of Operating and Maintenance personnel costs will effectively end as of September 30, 2018, and the base rate recovery of these costs will commence at that time. The Company will recover 5/12 of the \$500,000, or \$208,333, through September 1, 2018. The Company will true-up this amount to the actual costs incurred in the Fiscal Year 2019 reconciliation filing, which it will file by August 1, 2019. Any over/under recovery will be returned to/recovered from customers during the period November 1, 2019 to October 31, 2020.