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File #: 153583

March 31, 2016

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Petition of UGI Utilities, Inc. - Gas Division for Approval of a Distribution System Improvement Charge - Docket No. P-2016-

Dear Secretary Chiavetta:

Enclosed for filing is the Petition of UGI Utilities, Inc. – Gas Division in the above-referenced proceeding. Copies will be provided as indicated on the Certificate of Service.

Respectfully submitted,



Jessica R. Rogers

JRR/jl

Enclosures

cc: Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

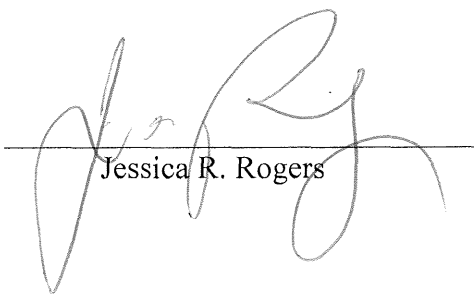
VIA FIRST CLASS MAIL

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Commerce Building
300 North Second Street, Suite 202
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555 Walnut Street
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Bureau of Investigation & Enforcement
PO Box 3265
Commonwealth Keystone Building
400 North Street, 2nd Floor West
Harrisburg, PA 17105-3265

Date: March 31, 2016



Jessica R. Rogers

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Petition of UGI Utilities, Inc. – Gas :
Division for Approval of a Distribution : Docket No. P-2016-_____
System Improvement Charge :

**Petition of UGI Utilities, Inc. – Gas Division for Approval of a
Distribution System Improvement Charge**

Pursuant to 66 Pa. C.S. § 1353, UGI Utilities, Inc. – Gas Division (“UGI-GD” or the “Company”) hereby files this Petition seeking approval of a Distribution System Improvement Charge (“DSIC”). This filing is being made pursuant to the Final Implementation Order of the Pennsylvania Public Utility Commission (“Commission”) entered at Docket No. M-2012-2293611 on August 2, 2012.¹ UGI-GD has undertaken a significant distribution system infrastructure evaluation, repair and replacement program. While this program was originally focused primarily on those portions of the UGI-GD system that were constructed using cast iron and bare steel pipe, in the past two winters UGI-GD has also identified other operational and regulatory requirements which have almost doubled the Company’s spending projections.

By this Petition, the Company respectfully requests that the Commission (1) find that UGI-GD’s DSIC contains all necessary items identified in 66 Pa. C.S. § 1353, and (2) approve UGI-GD’s DSIC with an effective date of January 1, 2017 and an effective rate of 0.0%.

I. INTRODUCTION

1. UGI-GD is a corporation organized and existing under the laws of the Commonwealth of Pennsylvania. UGI-GD is engaged in the business of selling and distributing

¹ *Implementation of Act 11 of 2012*, Docket No. M-2012-2293611 (Pa. Pub. Util. Comm’n Aug. 2, 2012) (“Final Implementation Order”).

natural gas to retail customers within the Commonwealth, and is therefore a “public utility” within the meaning of Section 102 of the Public Utility Code, 66 Pa. C.S. § 102, subject to the regulatory jurisdiction of the Commission. UGI-GD provides natural gas service to approximately 379,000 customers in and around Eastern and Central Pennsylvania, pursuant to certificates of public convenience granted by the Commission. Its system contains approximately 5,599 miles of natural gas distribution mains and 122 miles of natural gas transmission mains as of December 31, 2015.

2. The names, addresses and telephone numbers of UGI-GD’s attorneys for purposes of this filing are as follows:

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UGI-GD’s attorneys are authorized to receive all notices and communications regarding this petition.

3. On February 14, 2012, Governor Corbett signed into law Act 11 of 2012 (“Act 11”), which amends Chapters 3, 13 and 33 of Title 66 of the Public Utility Code (“Code”).

Pertinent to this Petition, Act 11 authorizes natural gas distribution companies (“NGDCs”) to establish a DSIC.

4. Act 11 provides utilities with the ability to implement a DSIC to recover reasonable and prudent costs incurred to repair, improve or replace certain eligible distribution property that is part of the utility’s distribution system. Eligible property for NGDCs is defined in Section 1351 of the statute. *See* 66 Pa. C.S. § 1351(2). As a precondition to the implementation of a DSIC, each utility must file a Long Term Infrastructure Improvement Plan (“LTIIIP”) with the Commission that is consistent with the provisions of Section 1352 of the statute. *See* 66 Pa. C.S. § 1352(a).

5. On August 2, 2012, the Commission issued the Final Implementation Order establishing procedures and guidelines necessary to implement Act 11. The Implementation Order adopted the requirements established in Section 1353 for the DSIC filing. In addition, the Commission provided a model tariff which the utilities were instructed to use in preparing their DSIC tariff.

6. Specifically, Section 1353 requires utilities to file a petition seeking Commission approval of a DSIC. The statute lays out four major requirements including the following:

- (a) An initial tariff that complies with the model tariff adopted by the Commission, which will include:
 - (i) A description of eligible property;
 - (ii) The effective date of the DSIC;
 - (iii) Computation of the DSIC;
 - (iv) The method for quarterly updates of the DSIC; and
 - (v) A description of consumer protections.
- (b) Testimony, affidavits, exhibits, and other supporting evidence demonstrating that the DSIC is in the public interest;

- (c) An LTIIIP, as described in Section 1352; and
- (d) Certification that a base rate case has been filed within five years prior to the filing of the DSIC petition.

7. UGI-GD's DSIC Petition addresses each of the elements listed in the statute in Section II, as described more fully below.

II. UGI-GD'S PETITION FOR A DSIC MEETS THE REQUIREMENTS ESTABLISHED IN 66 PA. C.S. SECTION 1353.

A. THE HISTORY OF UGI-GD'S LTIIIP

8. Section 1353 requires a utility to have a Commission-approved LTIIIP in order to be eligible to utilize a DSIC. Pursuant to *Implementation of Act 11 of 2012*, Docket No. M-2012-2293611 (Aug. 2, 2012) ("*Final Implementation Order*"), the LTIIIP must include the following seven major elements:

- (a) Types and age of eligible property;
- (b) Schedule for its planned repair and replacement;
- (c) Location of the eligible property;
- (d) Reasonable estimate of the quantity of property to be improved;
- (e) Projected annual expenditures and measures to ensure that plan is cost effective;
- (f) Manner in which replacement of aging infrastructure will be accelerated and how repair, improvement or replacement will maintain safe and reliable service; and
- (g) A workforce management and training program.

9. On December 12, 2013, UGI-GD filed a *Petition for Approval of its Long Term Infrastructure Improvement Plan* at Docket No. P-2013-2398833. In its petition, which contained all of the elements of 66 Pa C.S. § 1352(a)(1)-(6), UGI-GD described the Company's plans to replace all of its cast iron pipelines over a 13-year period ending in February 2027, and to replace all bare steel and wrought iron pipelines over a 28-year period ending September 2041. In addition to its mains, UGI-GD identified other infrastructure repair and replacement

that the Company would address in the five year period covered by the LTIIIP. The Commission approved UGI-GD's LTIIIP in an order entered on July 31, 2014.

10. On February 29, 2016, UGI-GD filed its *Petition of UGI Utilities, Inc. – Gas Division for Approval of a Modification to its Long Term Infrastructure Improvement Plan* (“Modified LTIIIP”) with the Commission at Docket No. P-2013-2398833. Pursuant to the Commission's regulations at 52 Pa. Code § 121.5(a), UGI-GD must file for a modified LTIIIP if its projected spending increases by 20% or more over the period of the plan. The Petition included a revised LTIIIP that reflected a 44% increase in the total projected spend over the period identified in the Commission-approved LTIIIP. No other elements of the Commission approved LTIIIP are being changed in the Modified LTIIIP.

11. At the time of filing this Petition, the Commission has not yet acted upon the Modified LTIIIP. However, because a prior Commission-approved LTIIIP is in place, UGI-GD meets the requirement that it have an LTIIIP in order to be eligible for a DSIC.

12. Included with this DSIC Petition are copies of both the original LTIIIP which has been approved by the Commission, as well as the Modified LTIIIP. The testimony of Hans G. Bell, identified as UGI Statement No. 2, discusses the LTIIIP in detail.

B. UGI-GD'S TARIFF COMPLIES WITH THE COMMISSION'S MODEL TARIFF

13. UGI-GD's proposed pro forma tariff supplement is included with this Petition, and is discussed in detail in the testimony of William J. McAllister, which is included with this Petition as UGI Statement No. 1. UGI-GD developed its proposed tariff in compliance with the model tariff included in the Commission's Implementation Order, as required by Section 1353(b)(1). As described below, UGI-GD's proposed tariff contains all of the statutory elements listed in Section 1353(b)(1), and, therefore, should be approved by the Commission.

14. UGI-GD's tariff is also consistent with the tariffs approved by the Commission and currently in use by its affiliates UGI Penn Natural Gas, Inc. ("UGI-PNG") and UGI Central Penn Gas, Inc. ("UGI-CPG"). Those tariffs were developed based on the Commission's model tariff and through negotiations with the statutory parties in the proceedings at Docket Nos. P-2013-2397056 and P-2013-2398835, and were approved by the Commission in Orders issued on July 8, 2015.

1. Description of Eligible Property

15. UGI-GD has included the same eligible property in both its DSIC tariff and its LTIP, as that term is defined in Section 1351(2). Eligible property includes the following: piping; couplings; gas service lines; insulated and non-insulated fittings; valves; excess flow valves; risers; meter bars; meters; unreimbursed costs related to highway relocation projects; gathering lines; storage lines; transmission lines; and other related capitalized costs. UGI-GD's LTIP describes in detail its plans for replacing the DSIC-eligible property identified in Section 1351(2) and in the Company's DSIC tariff.

2. Effective Date of the DSIC

16. UGI-GD is requesting permission to implement its DSIC for bills rendered on and after January 1, 2017. While the DSIC will become effective upon the Commission's approval of this Petition, the initial DSIC rate will be set at 0.0%, to reflect the ongoing base rate proceeding at Docket No. R-2015-2518438. UGI-GD will not be able to recover any costs associated with infrastructure replacement through the DSIC until it has placed in service a level of DSIC-eligible plant that exceeds the level approved by the Commission for base rate recovery in the Company's pending base rate case, or as otherwise directed by the Commission.² Once

² UGI-GD anticipates that the specific treatment of DSIC eligible plant will be addressed as part of the ongoing base rate proceeding, consistent with the Commission's regulations surrounding Act 11 and the treatment of other utilities using a fully projected future test year to support a base rate proceeding.

UGI-GD is allowed to implement a non-0.0% DSIC, the DSIC will be calculated to reflect all eligible plant placed in service which has not been included in Docket No. R-2015-2518438.

3. Computation of DSIC

17. UGI-GD's DSIC will be calculated consistent with the Commission's model tariff. UGI-GD will use a rate of return on equity ("ROE") determined in Docket No. R-2015-2518438, or in accordance with 66 Pa. C.S. § 1353.

18. UGI-GD has proposed to base its projected quarterly revenues on one-fourth of its projected annual distribution revenues, which is consistent with the Commission's model tariff.

4. Quarterly Updates

19. The DSIC will be updated on a quarterly basis to reflect eligible plant additions placed in service during the three-month period ending one month prior to the effective date of any DSIC update. As explained above, the DSIC rate will initially be 0.0%, until UGI-GD has placed in service a level of DSIC-eligible plant that exceeds the level approved by the Commission for base rate recovery in the Company's pending base rate case, or as otherwise directed by the Commission.

20. UGI-GD has provided a chart in its pro forma tariff of the effective dates of its proposed DSIC updates, and the corresponding period for eligible plant additions that will be reflected in each update, as part of the DSIC tariff language included in the pro forma tariff.

21. Once UGI-GD has implemented its DSIC, customers will receive notice of quarterly changes in the DSIC through bill messages. This is consistent with Act 11, the Commission's Final Implementation Order, and the method used by UGI-PNG and UGI-CPG which was approved by the Commission as part of their DSIC proceedings at Docket Nos. P-2013-2397056 and P-2013-2398835.

5. Consumer Protections

22. The Commission's model tariff includes customer safeguards in its structure which UGI-GD has adopted as part of its proposed tariff. These safeguards include: (1) a 5.0% cap on the total amount of revenue that can be collected by the Company as determined on an annualized basis; (2) audits conducted by the Commission; (3) annual reconciliations performed by UGI-GD; (4) a reset of the DSIC to zero as of the effective date of new base rates that include the DSIC-eligible plant; (5) customer notice of any changes in the DSIC; (6) equal application of the DSIC to all customer classes, except that the Company may reduce or eliminate the DSIC rider to any customer with competitive alternatives or flexed, discounted or negotiated rates; and (7) provisions for the charge to be set at zero if, in a quarter, UGI-GD's most recent earnings report shows that UGI-GD is earning a rate of return that exceeds the allowable rate of return used to calculate its fixed costs under the DSIC.

C. UGI-GD'S DSIC PETITION IS IN THE PUBLIC INTEREST

23. Implementing UGI-GD's proposed DSIC tariff is in the public interest because the DSIC will ensure that customers will continue to receive safe and reliable service in the future as required by 66 Pa. C.S. § 1501.

24. Construction materials used for natural gas pipelines have evolved dramatically since the first pipelines in UGI-GD's system were constructed, and many of the legacy materials and methods used for constructing pipelines have subsequently been found to have a greater likelihood of requiring replacement as they age. In the oldest portions of UGI-GD's system, cast iron was used because at the time of construction it was considered relatively strong and easy to install. Cast iron, however, is vulnerable to breakage from ground movement. As a result, the industry transitioned to bare steel and wrought iron piping, which was popular until the 1960s. A significant portion of UGI-GD's system is composed of bare steel. Bare steel is subject to

corrosion. Finally, as the industry moved to the use of plastic piping starting in the 1970s, certain plastic materials used early in the process have shown a vulnerability to stress propagation cracking.

25. In addressing the situation of aging mains the UGI Companies established a major accelerated distribution infrastructure replacement program. As a result of the accelerated program, UGI-GD has significantly increased the amount it invests in repairing and replacing its distribution infrastructure.

26. Prior to the Implementation of Act 11, over the baseline period of 2009 through 2011, UGI-GD invested approximately \$26.1 million annually on repairing and replacing its distribution infrastructure. For the five years of the LTIP plan, the Company originally committed to capital investments totaling approximately \$51.2 million per year, which reflected an increase in spending of 66% over the baseline period. As a result of changes in operational and regulatory needs, the Company has increased this amount to between \$66.0 million and \$92.9 million per year over the remaining years of the LTIP. This additional investment is a 153% increase in annual spending over the baseline period.

27. UGI-GD has recently identified other areas that require additional investment. Specifically, system reliability improvements, service replacements, and mandated relocations of utility facilities – three categories included in the LTIP, have required significant additional investment due to operational needs and changes in regulation experienced during the first two years of the Company's LTIP. It is these three categories that caused UGI-GD to seek to modify its LTIP in early 2016, in order to increase the anticipated investment over the remaining period of the plan.

28. UGI-GD believes that replacement of aging distribution equipment and facilities will reduce the number of leaks on its system, allow it to install additional safety mechanisms,

and will generally improve service to its customers. The DSIC will allow UGI-GD to continue its already accelerated pace for replacing its distribution infrastructure.

29. UGI-GD's infrastructure replacement program will also allow UGI-GD to install additional new safety devices. This includes excess flow valves, which will shut off gas to a residence or business in the event of a large pressure differential, which is typically indicative of a major gas leak or a service damaged by excavation. The DSIC will allow UGI-GD to remove deteriorating portions of its system and enhance the safety of its system by ensuring replacement of facilities with new, longer lasting and safer materials. The public will receive better service, with fewer interruptions.

30. Further details regarding why the DSIC is in the public interest are provided in UGI-GD's LTIP.

D. UGI-GD'S LTIP COMPLIES WITH SECTION 1352 OF ACT 11

31. UGI-GD's Commission-approved LTIP is attached as Exhibit No. 2, Appendix A to this Petition. The Modified LTIP is also attached, as Exhibit No. 2, Appendix B. The Modified LTIP reflects adjustments to the anticipated investment over the lifetime of the LTIP. UGI-GD made no other substantive changes through the Modified LTIP. The LTIP, including its procedural history and content, is discussed in the testimony of Hans Bell, which is attached to this Petition as UGI Statement No. 2. UGI's LTIP is in accordance with the Commission's Implementation Order and Act 11.

32. Based on UGI-GD's LTIP, over a 13-year period ending February of 2027, the Company anticipates replacing all of its cast iron pipelines. In addition, by September 2041, it anticipates replacing all of its bare steel and wrought iron pipelines. UGI-GD will also replace gas service lines on an accelerated basis as part of the accelerated meter relocation program as required by the Commission in Docket No. L-2009-2107155. This work is in addition to the

planned service line replacement done in conjunction with the replacement of the mains to which they are connected. At the time of coordinated main and service line replacement, inside meters will be replaced and moved outside wherever practical to better facilitate company access and enhance safety. Further, excess flow valves, which are safety devices that interrupt the flow of gas if a medium pressure service line is severed, will be installed on all new and replacement medium pressure service lines serving single family homes.

33. UGI-GD reassesses its system, and projects are reprioritized each year based on the most current data available. As such, the list of distribution improvement projects is a dynamic roster that is subject to modification based on emerging conditions. UGI-GD maximizes efficiencies and minimizes costs by addressing large segments of the system, and carrying out replacements on a planned, systematic basis. This process ensures effective use of resources and minimizes disruption to the customers and municipalities that UGI-GD serves.

E. BASE RATE CASE CERTIFICATION

34. As part of its filing, a utility is required to certify that it has filed a base rate case within five years prior to the date of its DSIC petition. 66 Pa. C.S. §1353(b)(4).

35. UGI-GD has provided the required certification as Exhibit No. 3 to this Petition. UGI-GD filed its last base rate case on January 19, 2016. That case is currently pending before the Commission at Docket No. R-2015-2518438.

F. CUSTOMER NOTICE

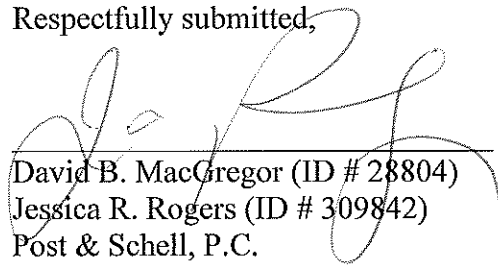
36. Consistent with Act 11 and the Commission's Final Implementation Order, customers will receive notice of the initial filing of this proposed DSIC through bill inserts beginning subsequent to the time of filing and continuing throughout a 30-day billing cycle. UGI-GD will begin the bill insert process within seven days of this filing. A copy of the customer notice to be provided is included as Exhibit WJM-2 to UGI Statement No. 1.

III. CONCLUSION

WHEREFORE, UGI Utilities, Inc. – Gas Division respectfully requests that the Pennsylvania Public Utility Commission (1) find that UGI-GD's Distribution System Improvement Charge contains all necessary items identified in 66 Pa. C.S. § 1353, and (2) approve UGI-GD's Distribution System Improvement Charge with an effective date of January 1, 2017 and an effective rate of 0.0%, for the good cause shown herein.

Respectfully submitted,

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Of Counsel:

Post & Schell, P.C.

Attorneys for UGI Utilities, Inc. – Gas Division

Date: March 31, 2016

VERIFICATION

I, Paul J. Szykman, Vice President, Rates & Government Relations, Vice President & General Manager – Electric Utilities, of UGI Utilities, Inc., hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect that UGI Central Penn Gas, Inc. to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 relating to unsworn falsification to authorities.

Date: March 31, 2016



Paul J. Szykman
Vice President, Rates & Government Relations
Vice President & General Manager – Electric Utilities
UGI Utilities, Inc.
2525 N. 12th Street
Reading, PA 19612-2677

Exhibit No. 1

UGI UTILITIES, INC.
GAS TARIFF
INCLUDING THE GAS SERVICE TARIFF
AND
THE CHOICE SUPPLIER TARIFF

Rates and Rules
Governing the
Furnishing of
Gas Service and Choice Aggregation Service
in the
West Region East Region
Including Territory Described on Pages 8 and 9

Issued:

Issued By:

Paul J. Szykman
Vice President – Rates and Government Relations
Vice President and General Manager – Electric Utilities
2525 N. 12th Street, Suite 360
Post Office Box 12677
Reading, PA 19612-2677

<http://www.ugi.com>

NOTICE

This tariff makes changes to existing rates. (See Page 1.)

UGI UTILITIES, INC.

LIST OF CHANGES MADE BY THIS SUPPLEMENT
(Page Numbers Refer to Official Tariff)

Table of Contents, Page 6.

- The Table of Contents has been changed to include new pages, Pages 38(b) - 38(d), to include Rider DSIC – Distribution System Improvement Charge.

13.D Rider DSIC – Distribution System Improvement Charge, Pages 38 (b) – 38(d).

- Rider DSIC – Distribution System Improvement Charge has been added.

Rate Schedules, Pages 65, 66, 69, 71, 72, 78, 79, 90, 98, 102, 109, 115, 119, 122.

- Rider DSIC has been added to the list of surcharges applicable to these rates.

UGI UTILITIES, INC.

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(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

UGI UTILITIES, INC.

RULES AND REGULATIONS

13.D Rider DSIC – DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) (C)

In addition to the net charges provided for in this Tariff, a charge of 0.00% will apply consistent with the Commission Order entered _____, at Docket No. P-2016-xxxxxxx, approving the DSIC.

13.D.1 Purpose. To recover the reasonable and prudent costs incurred to repair, improve, or replace eligible property which is completed and placed in service and recorded in the individual accounts, as noted below, between base rate cases and to provide the Company with the resources to accelerate the replacement of aging infrastructure, to comply with evolving regulatory requirements and to develop and implement solutions to regional supply problems.

The costs of extending facilities to serve new customers are not recoverable through the DSIC.

13.D.2 Eligible Property.

The DSIC-eligible property will consist of the following:

- Piping, Couplings, Valves, Excess Flow Valves, Risers - Distribution & Transmission (374, 376, 365, 367)
- Measuring & Regulator Stations – Distribution & Transmission (375, 378, 379, 366, 369, 370)
- Gas Service Lines and Insulated and Non-Insulated Fittings (378, 380)
- Meters, Meter Bars, Meter Installations (381, 382)
- House Regulators & Installations (383, 384)
- Industrial & Farm Tap Measuring & Regulator Station Equipment (385, 386)
- Miscellaneous Equipment and Material– Distribution & Transmission (387, 371)
- Equipment – Electronic Systems & Software (391)
- Vehicles, Power Equipment, Tools, Shop & Garage Equipment (392, 394, 396)
- Unreimbursed costs related to highway relocation projects where a natural gas distribution company or city natural gas distribution operation must relocate its facilities.
- Gathering lines (332)
- Storage lines (353)
- Other related capitalized costs.

13.D.3 Effective Date. The DSIC will become effective for bills rendered on and after January 1, 2017.

13.D.4 Computation of the DSIC. The initial DSIC, effective January 1, 2017, will be set at 0.0%, and will remain at 0.0% until the quarter following any month where there are eligible plant additions that have not been previously reflected in the rates or rate base. Thereafter, the DSIC will be updated on a quarterly basis to reflect eligible plant additions placed in service during the three-month periods ending one month prior to the effective date of each DSIC update. Thus, changes in the DSIC rate will occur as follows:

Effective Date of Change	Date to which DSIC-Eligible Plant Additions Reflected
April 1	December 1 through February 28
July 1	March 1 through May 31
October 1	June 1 through August 31
January 1	September 1 through November 30

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

UGI UTILITIES, INC.

RULES AND REGULATIONS

13.D Rider DSIC – DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) (cont'd) (C)

13.D.5 Determination of Fixed Costs. The fixed costs of eligible distribution system improvements will consist of depreciation and pre-tax return, calculated as follows:

1. Depreciation: The depreciation expense shall be calculated by applying the annual accrual rates employed in the Company's most recent base rate case for the plant accounts in which each retirement unit of DSIC-eligible property is recorded to the original cost of DSIC-eligible property.
2. Pre-Tax Return: The pre-tax return shall be calculated using the statutory state and federal income tax rates, the Utility's actual capital structure and actual cost rates for long-term debt and preferred stock as of the last day for the three-month period ending one month prior to the effective date of the DSIC and subsequent updates. The cost of equity will be the equity return rate approved in the last fully litigated base rate proceeding for which a final order was entered not more than two years prior to the effective date of the DSIC. If more than two years shall have elapsed between the entry of such a final order and the effective date of the DSIC, then the equity return rate used in the calculation will be the equity return rate calculated by the Commission in the most recent Quarterly Report on the Earnings of the Jurisdictional Utilities released by the Commission.

13.D.6 Application of DSIC. The DSIC will be expressed as a percentage carried to two decimal places and will be applied to the total amount billed to each customer for distribution service under the otherwise applicable rates and charges, excluding amounts billed for the State Tax Adjustment Surcharge (STAS). To calculate the DSIC, one-fourth of the annual fixed costs associated with all property eligible for cost recovery under the DSIC will be divided by the projected revenue for distribution service (including all applicable clauses and riders) for the quarterly period during which the charge will be collected, exclusive of STAS.

Formula: The formula for the calculation of the DSIC is as follows:

$$\text{DSIC} = \frac{(\text{DSI} * \text{PTRR}) + \text{Dep} + e}{\text{PQR}}$$

Where:

DSI = Original cost of eligible distribution system improvement projects net of accrued depreciation.

PTRR = Pre-tax return rate applicable to DSIC-eligible property.

Dep = Depreciation expenses related to DSIC-eligible property.

e = Amount calculated under the annual reconciliation feature or Commission audit, as described below.

PQR = Projected quarterly revenues for distribution service (including all applicable clauses and riders) from existing customers plus netted revenue from any customers which will be gained or lost by the beginning of the applicable service period.

Revenues will be determined as one-fourth (1/4) of projected annual revenues as determined in accordance with 13.D.8.5.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

RULES AND REGULATIONS

13.D Rider DSIC – DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) (cont'd) (C)

13.D.7 Quarterly Updates. Supporting data for each quarterly update will be filed with the Commission and served upon the Commission's Bureau of Audits, Bureau of Investigation and Enforcement, the Office of Consumer Advocate, and the Office of Small Business Advocate at least ten (10) days prior to the effective date of the update.

13.D.8 Customer Safeguards.

1. Cap: The DSIC is capped at 5.0% of the amount billed to customers for distribution service (including all applicable clauses and riders) as determined on an annualized basis.
2. Audit/Reconciliation: The DSIC is subject to audit at intervals determined by the Commission. Any cost determined by the Commission not to comply with any provision of 66 Pa C.S. § 1350, et seq., shall be credited to customer accounts. The DSIC is subject to annual reconciliation based on a reconciliation period consisting of the twelve months ending December 31 of each year. The revenue received under the DSIC for the reconciliation period will be compared to the Company's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e), over a one-year period commencing on April 1 of each year. If DSIC revenues exceed DSIC-eligible costs, such over-collections will be refunded with interest. Interest on over-collections and credits will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. § 101, et seq.) and will be refunded in the same manner as an over-collection.
3. New Base Rates: The DSIC will be reset to zero upon application of new base rates to customer billings that provide for prospective recovery of the annual costs that had previously been recovered under the DSIC. Thereafter, only the fixed costs of new eligible plant additions that have not previously been reflected in the Company's rates or rate base will be reflected in the quarterly updates of the DSIC.
4. Customer Notice: An explanatory bill insert shall be included with the first billing following the effective date of the initial Distribution System Improvement Charge. Customers shall be notified of subsequent changes in the DSIC by including appropriate information on the first bill they receive following any change.
5. All Customer Classes: The DSIC shall be applied equally to all customer classes, except that the Company may reduce or eliminate the Rider DSIC to any customer with competitive alternatives who are paying flexed or discounted rates and customers having negotiated contracts with the Company, if it is reasonably necessary to do so.
6. Earnings Reports: The DSIC will also be reset to zero, if, in any quarter, data filed with the Commission in the Company's then most recent Annual or Quarterly Earnings reports show that the Company would earn a rate of return that would exceed the allowable rate of return used to calculate its fixed costs under the DSIC as described in the pre-tax return section.

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RATE R (Continued)

GENERAL SERVICE - RESIDENTIAL

- (C) Rider MFC, Rider GPC, Rider DSIC, the State Tax Surcharge, and the Surcharge for Recovery of Transition Costs and the Rider LISHP, as set forth in the Rules and Regulations apply to the above rates.

A late payment charge of 1-1/4% per month is due on all amounts unpaid after the due date.

MINIMUM BILLS

Customer Charge set forth above.

TOTAL SPACE CONDITIONING OPTION

For Customers who take service under Rate R and have associated gas cooling use billed under this option, the above rates shall be PGC(2) based and shall be reduced by \$0.01735 per 100 cubic feet to reflect the associated gas cost. This option is available only to customers who: 1) utilize natural gas as the primary energy source for space conditioning requirements - heating and cooling, 2) utilize natural gas for water heating purposes, and 3) maintain one or more additional gas appliances (range, dryer, cooktop or oven.) The qualifying natural gas cooling unit must be installed and operational and be of a make/manufacture approved by the Company. Customers receiving service under this option agree to allow the company, at its option, to install load monitoring facilities.

LOW INCOME SELF-HELP PROGRAM (LISHP)

This Low Income Self-Help Program is available to a maximum of 10,000 customers.

(C) Indicates Change

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RATE RT

GENERAL SERVICE – RESIDENTIAL TRANSPORTATION

AVAILABILITY

This Rate applies to all Residential Customers in entire gas service territory of the Company who are served by a qualified Choice Supplier receiving service under Rate AG. A Residential Customer shall be defined as a Customer using natural gas in (1) a one or two-family dwelling, (2) separately metered apartments of a multiple dwelling, or (3) premises used as a single family dwelling and for one or more business uses, provided the proprietor of the business resides in the single family dwelling, and the business uses less than fifty percent of the anticipated gas usage served through a single meter. Service will be supplied only where the Company's facilities are suitable to the service desired.

STANDBY AVAILABILITY

Where service is provided under this Rate to any Residential Customer utilizing natural gas as a backup, auxiliary or temporary fuel, a Standby Surcharge shall apply. For purposes of applying the Standby Surcharge, backup, auxiliary or temporary functionality shall be determined at the Company's sole discretion where natural gas is being utilized as a backup heating fuel to any other fuel service.

MONTHLY RATE TABLE

Customer Charge:

\$8.55 per customer

Distribution Charge:

First 5,000 cubic feet - \$0.33082 per 100 cubic feet
Over 5,000 cubic feet - \$0.26634 per 100 cubic feet

Plus, if Standby:

Customer Charge Surcharge: \$6.764 per Customer

Plus

Delivery Charge Surcharge: \$0.0600 per 100 cubic feet

- (C) Rider DSIC, the State Tax Surcharge, the Surcharge for Recovery of Transition Costs, the Migration Rider Surcharge and the Rider LISHP, as set forth in the Rules and Regulations apply to the above rates.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

UGI UTILITIES, INC.

RATE GL (Continued)

GAS LIGHT SERVICE

- (C) Rider DSIC, the State Tax Surcharge, and the Surcharge for Recovery of Transition Costs as set forth in the Rules and Regulations apply to the above rates.

LATE PAYMENT CHARGE

Commercial and Industrial Customers:

5% on all amounts unpaid after the due date, and an additional 1-1/2% per month for each month thereafter.

Residential Customers:

1-1/4% per month on all amounts unpaid after the due date.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

RATE N (Continued)

GENERAL SERVICE - NON-RESIDENTIAL

Plus, if Standby:

Customer Charge Surcharge: \$42.37 per Customer

Plus

Commodity Charge Surcharge: \$0.478 per MCF

- (C) Rider DSIC, rate MFC, Rider GPC, the State Tax Surcharge, and the Surcharge for the Recovery of Transition Costs as set forth in the Rules and Regulations applies to the above rates.

LATE PAYMENT CHARGE

5% on all amounts unpaid after the due date, and an additional 1-1/2% per month for each month thereafter.

MINIMUM BILLS

Where gas is used for space heating or other use directly related to weather conditions and no gas is separately metered and billed to other Customers on the premises, the bill is 3% of the average monthly use during January, February, and March billing periods of each year, as estimated by the Company.

For all others, the Customer Charge set forth above.

TOTAL SPACE CONDITIONING OPTION

For customers who take service under Rate CIAC and have associated use billed under this option and maintain a load factor consistent with the average PGC(2) group, the above rates shall be PGC(2) based and shall be reduced by \$0.1735 per Mcf to reflect the associated gas cost. This option is available only to customers who utilize natural gas as the primary energy source for space conditioning requirements. Annual load factors shall be reviewed at the end of the October billing period to determine customer eligibility for the following year. Customers receiving service under this option agree to allow the company, at its option, to install load monitoring facilities.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

UGI UTILITIES, INC.

RATE NT

GENERAL SERVICE - NON-RESIDENTIAL TRANSPORTATION

AVAILABILITY

This Rate applies in the entire territory served by the Company and is available to all Customers who are served by a Choice Supplier receiving service under Rate AG, except Residential Customers, using gas for any purpose. Service will be supplied only where the Company's facilities and the available quantity of gas are suitable to the service desired. Rate NT service may not be applied to supplement or back up interruptible service under Rates IS, IL or DS, except to the extent of needs for plant protection use. Service to the same customer under Rate NT and Rates IS, IL or DS and transfers of a customer or customer load from Rates IS, IL or DS to Rate NT shall be permitted only as determined by the Company, and subject to reasonable limitations.

STANDBY AVAILABILITY

Where service is provided under this Rate to any non-residential customer utilizing natural gas as a backup, auxiliary or temporary fuel, a Standby Surcharge shall apply. For purposes of applying the Standby Surcharge, backup, auxiliary or temporary functionality shall be determined at the Company's sole discretion where natural gas is being utilized as a backup heating fuel to any other fuel service.

MONTHLY RATE TABLE

Billing Period:

April through October

November through March

Customer Charge:

\$8.55 per Customer

\$8.55 per Customer

Plus

Distribution Charge:

First 25 MCF @

\$4.0268 per MCF

First 25 MCF @ \$4.0268 per MCF

Next 475 MCF @

\$3.5309 per MCF

Next 475 MCF @ \$3.5309 per MCF

Over 500 MCF @

\$2.2902 per MCF

Over 500 MCF @ \$2.4374 per MCF

Plus, if Standby:

Customer Charge Surcharge: \$42.37 per Customer

Plus

Commodity Charge Surcharge: \$0.478 per MCF

- (C) Rider DSIC, the State Tax Surcharge, the Surcharge for the Recovery of Transition Costs and the Migration Rider Surcharge as set forth in the Rules and Regulations applies to the above rates.

(C) Indicates Change

Issued:

Effective for Service
 Rendered on and after

UGI UTILITIES, INC.

RATE CIAC (Continued)

**GENERAL SERVICE--COMMERCIAL AND
INDUSTRIAL AIR CONDITIONING**

MONTHLY RATE TABLE

Customer Charge: \$8.55 per Customer

Plus

Distribution Charge: \$1.9207 per MCF

Plus

Natural Gas Supply Charge as Stated in Section 13.1

Plus

Gas Cost Adjustment as Stated in Section 13.1

(C) Rider DSIC, Rider MFC, Rider GPC, the State Tax Surcharge, and the Surcharge for the Recovery of Transition Costs as set forth in the Rules and Regulations applies to the above rates.

LATE PAYMENT CHARGE

5% on all amounts unpaid after the due date, and an additional 1-1/2% per month for each month thereafter.

MINIMUM BILL

Customer Charge set forth above.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

**RATE CT
GENERAL SERVICE--COMMERCIAL
AND INDUSTRIAL AIR CONDITIONING - TRANSPORTATION**

AVAILABILITY

This Rate applies in the entire territory served by the Company and is available to any commercial or industrial Customer, served by a Choice Supplier receiving service under Rate AG, using gas for air conditioning purposes when Customer has a written agreement contracting for use of gas under the terms of this Tariff. Service will be supplied only where the Company's facilities and available quantities of gas are suitable to the service desired. The number of Customers to receive service under this Rate may be limited by the Company.

The use of gas under this Rate will only be available beginning with the April billing period and ending with the October billing period.

TERMS AND BILLING

Service shall be for a period of not less than one (1) year with monthly payments for service taken. Gas sold under this Rate Schedule shall be determined and billed by the Company upon the basis of:

- (a) Gas used in excess of the estimated use for purposes other than air conditioning, or
- (b) Gas used for air conditioning separately metered where it is practical and economical.

Where gas is also used for space heating service under Rate N or NT and CT usage during the billing month is equal to or greater than 3% of the average Rate N or NT gas usage during January through March, then all air conditioning usage will be billed under Rate CT, if less than 3% of the average is consumed, then air conditioning usage will be billed under Rate CT, and the difference will be billed under Rate N or NT.

All other gas used, including gas used for air conditioning purposes during months other than the billing periods of April through October, shall be paid for under other rates applicable to Customer.

MONTHLY RATE TABLE

Customer Charge: \$8.55 per Customer

Plus

Distribution Charge: \$1.9207 per MCF

- (C) Rider DSIC, the State Tax Surcharge, Surcharge for the Recovery of Transition Costs and the Migration Rider, as set forth in the Rules and Regulations applies to the above rates.

(C) Indicates Change

Issued:

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Rendered on and after

UGI UTILITIES, INC.

RATE DS (Continued)

DELIVERY SERVICE

Plus

System Access Fee: The difference between Company assigned (or otherwise assignable) pipeline capacity cost under this rate schedule and the Company's unitized weighted average cost of capacity for service received under this rate schedule, as calculated by the Company.

Plus

Maximum Delivery Charge:

Billing Period:	<u>April through October</u>	<u>November through March</u>
First 500 MCF	\$2.30	\$2.30
Over 500 MCF	\$1.95	\$2.07

(C) Plus Rider DSIC

The delivery charges set forth above for Rate DS Customers shall be reduced by \$0.06 per MCF for the delivery of Pennsylvania gas to reflect the reduced pipeline charges to the Company associated with transportation of this gas. Such reduction shall also apply to the delivery of other gas where the Company's cost is likewise reduced.

The Surcharge for the Recovery of Transition Costs as set forth in the Rules and Regulations apply to the above rates.

CHARGE FOR OTHER TRANSPORTATION, CAPACITY AND/OR STORAGE

If the Customer chooses to use the Company as agent in regard to transportation service by others, any costs calculated by or billed to the Company, with regard to such agency, shall be billed to the Customer by the Company and may include an applicable administrative fee as agreed by the Customer and Company.

GENERAL TERMS

Where applicable, the above capacity charges and System Access Fee charges include a PGC credit amount as specified under "General Terms For Delivery Service" and shall be promptly redetermined to reflect changes in such credit in accordance therewith.

Company shall retain for Company use and unaccounted for 0.5% of the total volume of gas delivered into its system for Customer's account.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

UGI UTILITIES, INC.

RATE IS (Continued)

INTERRUPTIBLE SERVICE - SMALL VOLUME

Plus,
Commodity Charge:

Charge as negotiated between the Customer and Company based upon the alternate fuels that the Customer has the economic capability of consuming, inclusive of related business factors.

(C) Plus Rider DSIC.

Each price per Mcf shall be no lower than the sum of applicable commodity cost of gas,

- customer cost of 3 cents / Mcf.

Each price shall be no greater than the otherwise applicable charge for firm service as computed on a 12-month basis, including the State Tax Surcharge.

Charges under this Rate shall be billed monthly and shall be equal to the sum of the applicable Customer and Commodity Charges

The State Tax Surcharge does not apply to service under Rate IS. The Purchased Gas Cost Rate does not apply to service under Rate IS and neither the sales volumes nor the associated commodity cost of gas shall be included in Purchased Gas Cost Rate calculations.

MINIMUM BILL

The Minimum Seasonal Bill, applicable only to the Off-Peak Period, shall equal the product of the Minimum Seasonal Bill Volume of 5,250 MCF times the price in effect at the date of the contract. Customers who have automatic temperature controlled gas shut-off devices shall be eligible for service under Rate IS, for those customers, a Minimum Annual Bill Volume of 650 MCF shall apply in lieu of the Minimum Seasonal Bill Volume. The outdoor temperature for the Customer at which gas shut-off will occur will be specified by the Company. Volumes taken under the Delivery Service Option and the Retail and Standby Rider shall be credited against the Minimum Seasonal or Annual Bill Volume. The Minimum Seasonal or Annual Bill shall be due and payable in accordance with the terms set forth in the Customer's Service Agreement.

LATE PAYMENT CHARGE

5% on all amounts unpaid after the due date, and an additional 1-1/2% per month for each month thereafter.

CHARGE FOR UNAUTHORIZED OVERRUN

Whenever it is necessary to restrict gas supplied under this Rate, the Company will provide due notice of such restriction, which shall be at least two (2) hours notice or upon written request of Customer up to six (6) hours notice, in a reasonable manner as determined by the Company. If a Customer, after having received due notice of restriction, shall take gas in excess of the amount made available by such notice, then Customer shall be billed for such excess gas at the rate of Twenty Seven Dollars and Fifty Cents (\$27.50) per MCF in addition to the charge specified in the monthly rate table. Customer shall indemnify Company from any claims by third parties resulting from Customer's unauthorized overrun.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

UGI UTILITIES, INC.

RATE IL (Continued)

INTERRUPTIBLE SERVICE - LARGE VOLUME

Plus,
Commodity Charge:

Charge as negotiated between the Customer and Company based upon the alternate fuels that the customer has the economic capability of consuming, inclusive of related business factors.

(C) Plus Rider DSIC.

Each price per Mcf shall be no lower than the sum of:

- applicable commodity cost of gas,
- customer cost of 3 cents / Mcf

Each price shall be no greater than the otherwise applicable charge for firm service as computed on a 12-month basis, including the State Tax Surcharge.

Charges under this Rate shall be billed monthly and shall be equal to the sum of the applicable Customer and Commodity Charges.

The State Tax Surcharge does not apply to service under Rate IL. The Purchased Gas Cost Rate does not apply to service under Rate IL and neither the sales volumes nor the associated commodity cost of gas shall be included in Purchased Gas Cost calculations.

MINIMUM SEASONAL BILL

The Minimum Seasonal Bill, applicable only to the entire Off-Peak period, shall equal the product of Minimum Seasonal Bill Volume (50,000 MCF) times the price in effect at the date of the contract. Volumes taken under the Delivery Service Option and the Retail and Standby Rider shall be credited against the Minimum Seasonal Bill Volume. The Minimum Seasonal Bill shall be due and payable in accordance with the terms set forth in the Customer's Service Agreement.

LATE PAYMENT CHARGE

5% on all amounts unpaid after the due date, and an additional 1-1/2% per month for each month thereafter.

CHARGE FOR UNAUTHORIZED OVERRUN

Whenever it is necessary to restrict gas supplied under this Rate, the Company will provide due notice of such restriction, which shall be at least two (2) hours notice or upon written request of Customer up to six (6) hours notice, in a reasonable manner as determined by the Company. If a Customer, after having received due notice of restriction, shall take gas in excess of the amount made available by such notice, then Customer shall be billed for such excess gas at the rate of Twenty Seven Dollars and Fifty Cents (\$27.50) per MCF in addition to the charge specified in the monthly rate table. Customer shall indemnify Company from any claims by third parties resulting from Customer's unauthorized overrun.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

UGI UTILITIES, INC.

RATE XD (Continued)

EXTENDED LARGE VOLUME DELIVERY SERVICE

Gas service in excess of volumes delivered by the Customer shall only be provided in accordance with applicable delivery service balancing provisions or in accordance with optionally elected and approved balancing or standby services.

Delivery Service in excess of the DFR is interruptible and will be provided under terms and conditions identical to those set forth under Rate Schedule IL.

Service under Rate XD is subject to the terms set forth under "General Terms For Delivery Service."

MONTHLY RATE TABLE

The charge for each monthly billing period shall be negotiable and shall be the sum of the Customer Charge, Delivery Charge, the Capacity Charge if applicable, and the Minimum Annual Bill as described below.

The following are maximum rates.

Customer Charge: Charge as determined by negotiation.

Plus

Capacity Charge: Charge for other Transportation if Applicable (see below).

Plus Maximum Average Delivery Charge:

If annual volumes > 700,000 Mcf: \$0.55/Mcf

If annual volumes < 700,000 Mcf: \$0.85/Mcf

(C) Plus Rider DSIC.

The Surcharge for the Recovery of Transition Costs as set forth in the Rules and Regulations apply to the above rates.

The delivery charges set forth above shall be reduced by \$0.06 per MCF of Pennsylvania gas delivered within the Customer's DFR to reflect the reduced pipeline charges to the Company associated with transportation of this gas. Such reduction shall also apply to the delivery of other gas where the Company's cost is likewise reduced.

Existing Rate XD contracts negotiated as of August 31, 1995 will be honored by the Company through the contract expiration date.

Unless otherwise agreed between the Customer and the Company, Company shall retain for Company use and unaccounted-for 0.5% of the total volume of gas delivered into its system for Customer's account.

MINIMUM BILL

Minimum Bill Volumes and terms shall be determined by negotiation.

CHARGE FOR OTHER TRANSPORTATION

If the Customer chooses to use the Company as agent in regard to transportation service by others, any costs calculated by or billed to the Company, with regard to such agency, shall be billed to the Customer by the Company and may include an applicable administrative fee as agreed by the Customer and Company.

(C) Indicates Change

Issued:

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Rendered on and after

RATE LFD (Continued)

LARGE FIRM DELIVERY SERVICE

Firm Delivery Service shall be provided for all volumes provided by the Customer for which the Company has available delivery capacity, subject to the curtailment provisions of the Company's Tariff, applicable rules and regulations of the PUC and any other governmental mandates.

Gas service in excess of volumes delivered by the Customer shall only be provided in accordance with applicable delivery service balancing provisions or in accordance with optionally elected and approved balancing or standby services.

Delivery Service in excess of the DFR is interruptible and will be provided under this Rate only in accordance with the Excess Requirement Option of Rate NNS, and so long as, in the sole opinion of the Company, there are sufficient facilities and capacity available. Such service will be restricted or interrupted during periods of peak demand. The Company reserves sole discretion to determine the appropriate allocation of capacity to interruptible loads during such periods.

Service under Rate LFD is subject to the terms set forth under "General Terms For Delivery Service."

DEFINITIONS

The Billing Month is the number of days between Company scheduled monthly meter readings.

The Monthly Firm Requirement is the product of the Daily Firm Requirement and the number of days in the Billing Month.

MONTHLY RATE TABLE

The charge for each monthly billing period shall be the sum of the Customer Charge, the Capacity Charge if applicable, the System Access Fee if applicable, the Delivery Charge and any Excess Take Charge as described below. The following are maximum rates.

Customer Charge: \$700.00

Plus

Capacity Charge: Charge for Other Transportation If Applicable (See Below).

Plus

System Access Fee: The difference, between Company assigned (or otherwise assignable) pipeline capacity cost under this rate schedule and the Company's weighted average cost of demand as calculated by the Company.

Plus

Maximum Delivery Charge:

First 1000 Mcf	\$1.843
Next 4000 Mcf	\$1.153
Over 5000 Mcf (April through October)	\$0.526
Over 5000 Mcf (November through March)	\$0.786

(C) Plus Rider DSIC.

The Surcharge for the Recovery of Transition Costs as set forth in the Rules and Regulations apply to the above rates.

(C) Indicates Change

UGI UTILITIES, INC.

RATE R/S

RETAIL AND STANDBY RIDER

CONTRACT TERM AND BILLING

Unless otherwise agreed by the Company and Customer the terms of contract shall be no less than one year with monthly payments for service taken.

DEFINITIONS

Unless otherwise agreed by the Company and Customer, the firm or interruptible Daily Standby Requirement (DSR) shall be equal to the Nominated Standby Requirement (NSR) divided by the number of days in the standby period.

The Billing Month is the number of days between meter readings.

MONTHLY RATE TABLE

The charge for each Billing Month shall be the sum of the Customer Charge

Plus

The Capacity/Reservation Charge corresponding to the Customer's service election, plus the Commodity Charge as shown below.

Administrative Service Fee: \$75 per month.

Plus

Capacity/Reservation Charge:

Firm Retail Option: The applicable market price for available upstream capacity, plus the applicable charge for available system capacity, less any capacity charges paid under the Customer's applicable Delivery Service Schedule, but in no case less than zero.

Firm Standby Option: The applicable firm standby reservation charge per MCF of DSR and/or per MCF of NSR.

Interruptible Standby Option: The applicable interruptible standby reservation charge per MCF of DSR and/or per MCF of NSR.

Plus

Commodity Charge: The delivery charge applicable under the Customer's delivery service schedule plus the applicable commodity cost, which shall be the identifiable additional cost of supply necessary to serve the Customer's usage, plus any applicable reservation cost of supply.

(C) Plus Rider DSIC.

The minimum monthly bill under this rate schedule shall be the sum of the Customer and Capacity/Reservation Charges plus any commodity reservation costs per MCF of NSR.

(C) Indicates Change

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UGI UTILITIES, INC.

RATE BD

BUSINESS DEVELOPMENT (Continued)

Plus

Natural Gas Supply Charges as Stated in Section 13.1

Plus

Gas Cost Adjustment as Stated in Section 13.1

(C) Plus Rider DSIC.

MONTHLY RATE TABLE (Continued)

Excess Take Charge:

For authorized usage on any day in excess of the DCR but less than 125% of the DCR, there will be a charge of \$1.00 per MCF in addition to the charges specified in the rate table. For authorized usage on any day of 125% or greater of the DCR, there will be a charge of \$6.00 per MCF in addition to the charges specified in the rate table.

The State Tax Surcharge and the Surcharge for Recovery of Transition Costs as set forth in the Rules and Regulations apply to the above Rates and Minimum Bill.

LATE PAYMENT CHARGE

5% on all amounts unpaid after the due date, and an additional 1-1/2% per month for each month thereafter.

MINIMUM BILL

Monthly: The Minimum Monthly Bill shall be the Customer Charge and the Demand Charge for the DCR.

Annual: The Minimum Annual Bill shall be based on the Customer maintaining a 0.80 annual load factor and shall be due and payable with the bill for the 12th month in the contract year. The Customer's actual load factor shall be determined by dividing the total volume of gas taken under this rate schedule during the contract year by the sum of the Monthly Contract Requirements for the contract year. If the actual load factor is less than 0.80, then, in addition to payment for actual usage, the Customer shall pay a Minimum Annual Bill charge equal to the product of: (1) the difference between 0.80 and the actual load factor, (2) the sum of the Customer's Monthly Contract Requirement, and (3) the average commodity charge paid by the Customer over the previous 12 month period, as calculated by the Company.

In the event the Customer, despite best efforts, fails to achieve a load factor value of at least 0.80, the Company may reduce the Customer's Minimum Annual Bill to the extent that: (a) the Customer's achieved load factor is no less than the Customer's load factor during the most recent contract year of normal operations in which no Minimum Annual Bill was incurred or (b) the achieved load factor was not reasonably within the control of the Customer. The load factor used in determining the Customer's Minimum Annual bill shall in no case be less than 0.50.

(C) Indicates Change

Issued:

Effective for Service
Rendered on and after

Exhibit No. 2

APPENDIX A

UGI Utilities Inc. - Gas Division

Long Term Infrastructure Improvement Plan 2014-2018

December 12, 2013

Introduction

UGI Utilities, Inc. – Gas Division (“UGI-GD” or the “Company”) respectfully submits this Long-Term Infrastructure Improvement Plan (“LTIIIP” or “Plan”) for the approval of the Pennsylvania Public Utility Commission (“Commission”) in accordance with the requirements of 66 Pa. C.S. § 1352(a) and the Commission’s Final Implementation Order, entered August 2, 2012, at Docket M-2012-2293611 (“Final Implementation Order”). As approved by the Commission, the UGI-GD LTIIIP shall serve to guide the Company’s accelerated infrastructure repair, improvement and replacement activities for the five year period 2014 through 2018 for its natural gas transmission and distribution facilities used in providing natural gas service to its customers located within the UGI-GD service territory.

The UGI-GD LTIIIP is being filed simultaneously with the LTIIIPs of UGI Penn Natural Gas (“UGI-PNG”) and UGI Central Penn Gas, Inc. (“UGI-CPG”). Hereinafter, UGI-GD, UGI-PNG and UGI-CPG shall be referred to collectively as the “UGI Distribution Companies.” Each company’s LTIIIP incorporates the joint facility replacement and betterment program of the UGI Distribution Companies. In addition, UGI-CPG and UGI-PNG are filing petitions for approval of a Distribution System Improvement Charge (“DSIC”) to accompany their LTIIIP petitions. UGI-GD is not filing a DSIC petition at this time.

The UGI-GD LTIP is structured to address the six specific factors set forth in the Commission's Final Implementation Order. Accordingly, this LTIP includes the following sections:

- (1) Identification of the types and age of eligible property owned or operated by the utility for which the utility would seek recovery;
- (2) An initial schedule for the planned repair and replacement of eligible property;
- (3) A general description of the location of the eligible property;
- (4) A reasonable estimate of the quantity of eligible property to be improved;
- (5) Projected annual expenditures to implement the plan and measures taken to ensure that the plan is cost effective; and
- (6) The manner in which the replacement of aging infrastructure will be accelerated and how the repair, improvement or replacement will ensure and maintain adequate, efficient, safe, reliable and reasonable service.

UGI-GD will address each section in more detail below. Additionally, the Company will provide certain information about maintaining a qualified work force, as identified by the Commission in the Final Implementation Order.

Corporate Background

UGI Utilities, Inc. (“UGI Utilities”) is the wholly owned, utility subsidiary of UGI Corporation. It operates two regulated divisions encompassing a natural gas distribution operation, UGI-GD, and an electric distribution operation, UGI Utilities. – Electric Division (“UGI-ED”). It also wholly owns two natural gas distribution companies, UGI-PNG and UGI-CPG, which were separately acquired by UGI Utilities within the last decade and operate under the shared executive management of UGI-GD. UGI-PNG began operations as a wholly owned subsidiary of UGI Utilities on September 1, 2006, through an acquisition of the assets from Southern Union Company.¹ UGI-CPG began operations as the wholly-owned subsidiary of UGI Utilities on October 1, 2008, via an acquisition of the stock of PPL Gas Utilities Corporation.²

The UGI Distribution Companies serve approximately 600,000 residential, commercial and industrial natural gas customers located in 45 of Pennsylvania’s total 67 counties and spanning more than 700 municipalities. As shown in the map below, the service territories of the UGI Distribution Companies include the following cities: Allentown,

¹ In an Opinion and Order entered on August 18, 2006 at Docket Nos. A-120011F2000, A-125146F5000 and A-125146, the Commission, among other things, authorized UGI-PNG to: (1) become a wholly-owned subsidiary of UGI Utilities; (2) receive the gas distribution assets of the PG Energy Division of Southern Union Company; and (3) commence the provision of natural gas distribution service to the approximately 160,000 customers previously served by PG Energy in thirteen counties in northeastern Pennsylvania.

² In an Opinion and Order entered on August 21, 2008 at Docket Nos. A-2008-2034045, A-2008-2034047, A-2008-2034115 and A-2008-2034132, the Commission, among other things: (1) authorized UGI-CPG (formerly known as PPL Gas Utilities Corporation) to become a wholly owned subsidiary of UGI Utilities; and (2) affirmed CPG’s right to render natural gas distribution service to customers residing in numerous municipalities located in 35 counties in Pennsylvania.

pursuant to their individual Commission-approved tariffs and certificate authorities. Together, the UGI Distribution Companies operate approximately 12,000 miles of natural gas mains in the Commonwealth of Pennsylvania.

More specifically, as of September 30, 2013, UGI-GD provides natural gas service to 356,075 customers located throughout its certificated service territory, which includes 16 counties in and around Eastern and Central Pennsylvania. The UGI-GD service territory includes five of Pennsylvania's 10 largest cities: Allentown, Bethlehem, Harrisburg, Lancaster and Reading, along with the suburban communities surrounding them. The UGI-GD service territory also includes rural communities as well. Its distribution system contains 5,423 miles of natural gas distribution mains and 117 miles of natural gas transmission mains.

UGI-PNG provides natural gas service to 162,523 customers as of September 30, 2013. These customers are located throughout a certificated service territory which includes 13 counties in and around Northeast Pennsylvania. The service territory of UGI-PNG is somewhat densely populated in and around the Cities of Wilkes-Barre, Scranton and Williamsport but otherwise consists of sparsely populated rural or suburban communities. Its system contains 2,575 miles of natural gas distribution mains and 66 miles of natural gas transmission mains.

UGI-CPG provides natural gas service to 78,175 Pennsylvania customers as of September 30, 2013. These customers are located throughout its certificated service territory, which includes 37 counties in Northeastern, Central and Northwestern Pennsylvania. UGI-CPG's service area is sparsely populated and non-integrated, as it is

composed of mostly rural or distant suburban communities. Its distribution system contains 3,713 miles of natural gas mains and 110 miles of natural gas transmission mains.

1. TYPES AND AGE OF ELIGIBLE PROPERTY

UGI-GD has identified the following types of property as DSIC-eligible distribution infrastructure that will be replaced as part of its plan:

- Gas distribution & transmission mains, valves, fittings, couplings, and appurtenances
- Gas service lines including tees, excess flow valves, curb valves, first stage regulators, tubing / piping, and risers
- Gas meter sets including regulators, meter bars, meter set piping, meters, and telemetry
- District regulator stations and city gate stations including telemetry
- Mandated facility relocations, as related to highway projects (unreimbursed costs)
- Related capitalized costs - equipment, tools, corrosion control equipment, vehicles, and supporting information technology

In the following section of its Plan, the Company will address each of these categories of property.

Distribution Mains

Distribution mains are DSIC-eligible property under Section 1351(2)(i) of the Public Utility Code. UGI-GD’s distribution mains are comprised of several different types of material including cast iron, wrought iron, unprotected bare steel, unprotected coated steel, protected bare steel, protected coated steel, and plastic. Cast iron and bare steel make up approximately 15% of UGI Distribution Companies pipelines. For UGI-GD, those materials comprise 13.6% of its system. The remaining approximately 85% of pipelines of the UGI Distribution Companies are comprised of contemporary materials which include plastic and coated steel. For UGI-GD, contemporary materials compose 86.4% of the system.

Cast iron distribution and bare steel distribution mains are considered legacy distribution assets and are widely recognized as warranting prioritized attention in terms of risk management and accelerated replacement.

As of December 31, 2012, UGI-GD had a total of 5,423 miles of distribution mains in its system.

Figure 2. Miles of Distribution Mains as of 12/31/2012³

Type of Material	Miles	Percent of Total
Unprotected bare steel	260.2	4.8
Unprotected coated steel	129.2	2.4

³ Per UGI-GD 2012 Department of Transportation (“DOT”) report.

Protected bare steel	131.8	2.4
Protected coated steel	1613.0	29.7
Ductile iron	0	0.0
Copper	0.1	0.0
Cast / wrought iron	347.5	6.4
Plastic	2938.3	54.2
Other	3.0	0.1
Total	<u>5423.1</u>	<u>100.0</u>

Beginning in 2014, UGI-GD’s Plan reflects the accelerated replacement and removal of all cast iron and bare steel / wrought iron pipelines within 13 and 28 years, respectively, or by February 2017 and September 2041. Other mains will be replaced as may be necessary to maintain or improve system integrity and reliability, or as may be required to accommodate highway related projects.

UGI-GD distribution mains were installed over a significant period of time. While many of these older distribution mains are composed of contemporary materials, the majority of the older facilities are made of vintage materials. Accelerating the replacement of cast iron mains, bare steel mains, vintage plastic mains, and the appurtenances associated with them will significantly improve the overall age profile and performance of the UGI-GD distribution system.

Figure 3. Age Profile of UGI-GD Distribution Mains as of 12/31/12⁴

Decade of Installation	Mileage	Percent of Total
Unknown	1.8	0.0
Pre-1940	508.1	9.4
1940s	77.1	1.4
1950's	536.6	9.9
1960's	729.6	13.4
1970's	421.2	7.8
1980's	693.2	12.8
1990's	1074.7	19.8
2000's	1214.0	22.4
2010's	166.8	3.1
Total	<u>5423.1</u>	<u>100.0</u>

Gas Service Lines

Gas service lines are the piping and/or tubing that connect the Company's mains to the meter sets. Service lines are constructed using the same materials as mains and are subject to the same elements that affect the physical integrity of the mains. In order to ensure that distribution service is reliable and safe, these service lines must be periodically replaced on the basis of condition or planned obsolescence. Gas service lines are DSIC eligible property under Section 1351(2) (iii) of the Public Utility Code.

Figure 4. Service Lines by Material as of 12/31/2012⁵

Service Material	Number of Services	Percent of Total
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⁴ Ibid

⁵ Ibid.

Unprotected bare steel	14,311	4.1
Unprotected coated steel	9,196	2.7
Protected bare steel	799	0.2
Protected coated steel	39,621	11.4
Ductile iron	0	0
Copper	10,871	3.2
Cast / wrought iron	2	0
Plastic	271,696	78.4
Other	23	0
Total Services	<u>346,519</u>	<u>100.0</u>

Gas services are typically replaced on a planned basis in conjunction with the replacement of the main to which they are connected. Coordinating replacements in this manner maximizes the efficient use of Company resources, and minimizes the inconvenience to customers. At the time of service line replacement, inside meters will be replaced with outside meters wherever practical to better facilitate company access.

Gas services may also be replaced in conjunction with meter move-outs. When meters are relocated from inside customer premises to outside, it is often convenient to simultaneously replace the affected service line. When coordinated in such a manner, future inconvenience to the customer is minimized by upgrading Company facilities in a single mobilization. Should future Commission rule makings require existing inside

meters to be relocated outside, it would be expected that the number of service line replacements would increase in proportion to the number of meter move-outs⁶.

Excess Flow Valves

Excess flow valves are safety devices installed on gas service lines which interrupt the flow of gas in the event of a fully severed line, typically in the case of damage caused by excavation. As service lines are replaced, excess flow valves are installed in accordance with Subpart H of CFR 49 Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards Section 192.381. Excess flow valves are DSIC-eligible property under Section 1351(2)(v) of the Public Utility Code.

Mercury Regulators

Mercury regulators are a type of pressure reduction device which incorporate liquid mercury as over-pressure protection. Mercury regulators were generally installed prior to the early 1960s when spring loaded relief valves became the industry standard. As part of the LTIIP, UGI plans to continue the replacement of mercury regulators. An estimated 7,000 mercury regulators remain in the UGI-GD system. Mercury regulators are DSIC-eligible property under Section 1351(2)(iii) of the Public Utility Code.

⁶ In reference to proposed rulemaking re amendment to 52 Pa. Code §59.18 Meter Location, Docket L-2009-2107155

City Gate & District Regulator Stations

City Gate and District Regulator Stations are facilities which reduce system pressures as gas is distributed throughout the piping network. City Gate Stations are generally located at the point of custody transfer between the interstate pipelines and distribution systems, whereas District Regulator Stations are located within distribution systems. Regulator stations must be periodically updated or replaced as components such as piping and mechanical equipment age and wear. Additionally, over time mechanical components such as regulators become obsolete and must be replaced with modern equipment to ensure availability of replacement parts and reliability. Regulating facilities may be replaced in whole or part depending upon the project objectives. Partial replacements could encompass equipment including but not limited to regulators, valves, heaters, metering, Supervisory Control And Data Acquisition (“SCADA”), and odorization. Some facilities will be eliminated through main replacement programs as low pressure systems are eliminated or where systems are otherwise consolidated. City Gate Stations and Distribution Regulator Stations are DSIC-eligible property under Section 1351(2)(i) and § 1351(2)(iv) of the Public Utility Code.

Figure 5. Number and Type of Regulator Stations

	City Gate Station	District Regulator Station	Total
UGI-GD	41	378	419

Vintage Plastic Pipe, Plastic Pipe Components, and Mechanical Fittings

Certain plastic pipe materials and fittings have been found to exhibit a higher than average potential for failure. UGI-GD has identified a type of tee, the fitting which joins the service line to the main, which may fail as the result of a compromised mechanical connection between the tee and main. A second type of plastic fitting, a service line curb valve with compression connections, has similarly exhibited a higher potential for failure. UGI-GD is engaged in ongoing surveillance and proactive repair and replacement of these fittings. When mechanical tees are replaced, a section of the host main is replaced, and a new tee is connected by plastic fusion. Compression connection service line valves are addressed by replacing the affected service line. Finally, early vintage plastic pipes have been found to be subject to higher potential for brittle cracking type failures and are replaced on a risk prioritized basis. In total, approximately 2,900 compression connection valves and 19,800 mechanical tees will be reviewed and addressed as may be appropriate at UGI-GD. Finally, certain types of early vintage plastic pipes have been found to be subject to higher potential for brittle cracking type failures. UGI-GD will monitor vintage plastic pipe performance perform replacements on a risk prioritized basis as may be necessary to maintain reliability and integrity. The aforementioned plastic pipe and pipe components are DSIC-eligible property under Sections 1351(2)(i), 1351(2)(ii), 1351(2)(iii), 1351(2)(iv), and 1351(2)(v) of the Public Utility Code.

Transmission Mains & Infrastructure

UGI-GD maintains approximately 117 miles of natural gas transmission pipelines. Transmission pipelines are those mains which provide large volumes of gas at high

pressures to provide service to entire cities and towns or large volume customers such as gas fired electric generation plants.

Maintaining the integrity of transmission infrastructure is necessary for both reliability and safety. In terms of reliability, transmission lines often provide service to many thousands of customers. Service interruptions can have wide spread regional consequences for many stakeholders. For these reasons, maintaining transmission infrastructure to a high degree of integrity is paramount. Transmission mains are DSIC – eligible property under Sections 1351(2)(i) and 1351(2)(iv) of the Public Utility Code.

Figure 6. UGI-GD Transmission Mains by Material as of 12/31/12⁷

Type of Material	Miles	Percent of Total
Protected bare steel	0.5	0.4
Protected coated steel	115.9	99.4
Unprotected bare steel	0.1	0.1
Unprotected coated steel	0.1	0.1
Cast iron	0	0
Wrought Iron	0	0
Plastic	0	0
Composite	0	0
Other	0	0

⁷ Per UGI-GD 2012 Department of Transportation (“DOT”) Transmission report.

Total	<u>116.6</u>	<u>100.0</u>
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Figure 7. UGI-GD Transmission Mains by Age as of 12/31/12⁸

Decade of Installation	Mileage	Percent of Total
Unknown	0	0
Pre-1940	0	0
1940s	1.9	1.6
1950's	20.2	17.3
1960's	30	25.7
1970's	14.4	12.4
1980's	25.2	21.6
1990's	12.2	10.5
2000's	12.7	10.9
2010's	0	0
Total	<u>116.6</u>	<u>100.0</u>

Approximately 19% of the UGI-GD transmission system is pre-1960s vintage, or more than 50 years old. Ongoing investments in transmission infrastructure are necessary to maintain these assets to ever increasing contemporary standards. Specifically, investment in the retrofit of transmission pipelines to facilitate internal inspection, pressure testing, and other integrity assessment techniques may be required to meet transmission integrity management regulations. Furthermore, replacement of transmission assets, in response to assessment findings, may be required to maintain system integrity.

⁸ Ibid

System Reliability Improvements

System Reliability Improvements are those investments required to maintain ongoing system reliability. Typical projects include investments in distribution or transmission infrastructure needed to reinforce system pressures to ensure firm peak-day deliverability. Investment in transmission and distribution mains is DSIC-eligible under Section 1351(2)(i) of the Public Utility Code.

UGI-GD utilizes system network models to predict system performance under peak operating conditions. Model results are validated against actual system operating conditions using data from remote SCADA monitoring, system regulator station charts, and winter survey gauges. Specific reliability projects are identified to improve system pressures as may be needed to maintain system reliability design criteria to firm customers.

Meters

UGI-GD replaces meters as may be necessary to maintain compliance with gas measurement accuracy standards as stipulated in 52 PA Code Section 59.21. UGI-GD maintains a statistical sampling program to evaluate meter accuracy. Should a grouping of meters fail to meet accuracy requirements, the meters are repaired or replaced. Replacement meters are DSIC eligible property under Section 1351(2)(viii) of the Public Utility Code.

Mandated Facility Relocations

UGI-GD is periodically required to relocate gas facilities to accommodate highway improvement projects. The unreimbursed portion of these costs is DSIC eligible property under Section 1351(2)(ix) of the Public Utility Code. When contemporary facilities are impacted, UGI-GD seeks to coordinate such projects to minimize the extent of facility relocation. When non-contemporary facilities, such as cast iron, bare steel, or vintage plastic are involved, the relocation projects provide an opportunity for infrastructure replacement.

Related Capitalized Costs

The replacement of DSIC eligible property described above may result in additional related costs incurred that are essential and necessary in order to efficiently manage specific accelerated capital improvement projects. Examples include but are not limited to tools, equipment, fleet, corrosion control, and information technology investments. These related costs are DSIC eligible property under Section 1351(2)(x) of the Public Utility Code.

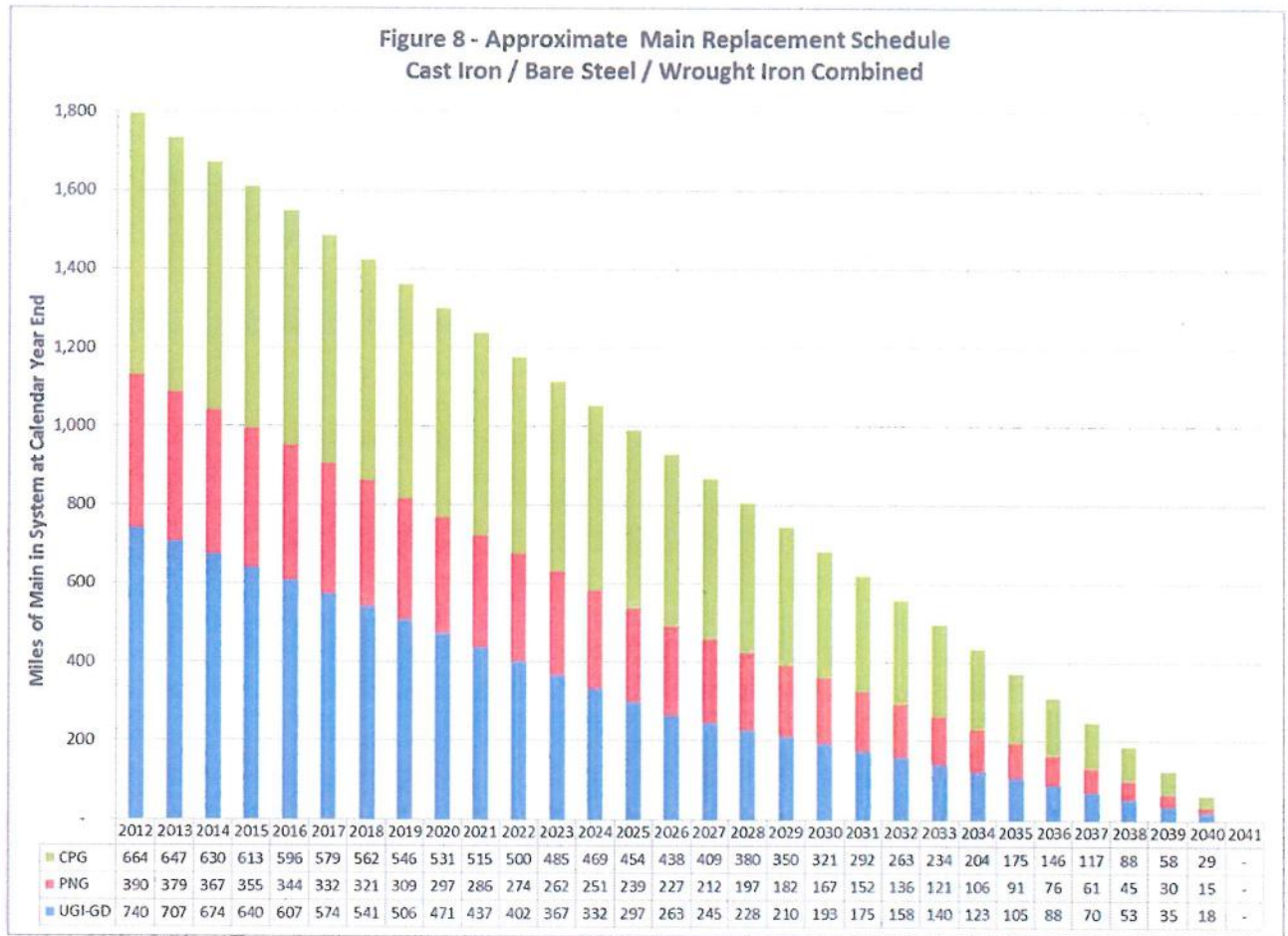
2. SCHEDULE FOR PLANNED REPLACEMENT OF ELIGIBLE PROPERTY

The UGI-GD LTIP reflects acceleration in the rate of infrastructure repair, improvement and replacement over historical levels. In particular, the accelerated replacement in this plan conforms with the Settlement Agreement approved by the Pennsylvania Public Utility Commission at Docket No. C-2012-2308997 (“Settlement Agreement”). Under the Settlement Agreement, the UGI Distribution Companies will replace all cast iron and

bare steel pipelines located within their combined systems. As of the date of the Plan filing, cast iron replacement will be completed in 13 years ending in February 2027, and bare steel / wrought iron replacement will be completed in 28 years ending in September 2041. This replacement rate, on a combined basis, represents a significant acceleration over historical replacement rates.

As depicted in the Figure 8⁹ below, it is anticipated that UGI-GD will replace approximately 33 miles of combined cast iron and bare steel mains in 2014. The specific allocation of mileage between cast iron and bare steel main replacement will vary annually depending on annual risk evaluations and project specific considerations. Additionally, the amount of the annual UGI Distribution Companies' 62 mile main replacement plan allocated to UGI-GD will vary as risks are annually re-evaluated and re-prioritized across all UGI Distribution Companies.

⁹ The replacement schedule presented in Figure 8 is a forecast based on known mileage of cast iron, bare steel, and wrought iron as of 12/31/12. Subsequent revisions of main classifications, as determined through field verification or records review, will modify this projection.



Under the accelerated main replacement program UGI-GD will focus on replacing existing cast iron and bare steel /wrought iron mains and related facilities. While certain bare steel facilities will be replaced in early years, the initial schedule emphasizes cast iron replacement until the final cast iron retirements are completed by March 1, 2027. Subsequently, replacement efforts shift to an emphasis on bare steel.

Main replacement risk evaluation is based on numerous factors, including the pipe condition, age, coating, type of ground cover, geographical proximity to structures, and prior leak and/or break history. Appendix A provides a detailed listing of factors

considered in the risk based evaluation. Additionally, specific projects may be escalated to enable coordination of replacement efforts with municipal roadway resurfacing projects.

The UGI Distribution Companies perform an annual review to identify the highest risk pipe segments and prioritize those replacements each year. UGI Distribution Companies utilize commercial risk evaluation software in concert with a team of Subject Matter Experts to evaluate, prioritize, and bundle replacement projects. This hybrid approach targets the highest risk mains first while also balancing the need to maximize the efficient deployment of capital and resources.

This approach is consistent with the UGI Distribution Companies' Transmission Integrity Management Program ("TIMP") and Distribution Integrity Management Program ("DIMP") in accordance with Subpart P of 49 CFR Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards. The purpose of the UGI Distribution Companies' TIMP & DIMP is to enhance public safety by identifying risks, assessing and prioritizing the risks, and implementing additional and accelerated actions or preventative and mitigative measures to reduce risks. As the UGI Distribution Companies continue to implement the TIMP & DIMP, other pipeline assets may be identified for repair, improvement or replacement as their conditions are evaluated and relative risks are reviewed and prioritized.

Attached to this Plan as Appendix B is a list of DSIC eligible main replacement projects currently planned for 2014. This listing is developed and reviewed one or more times each year based on a reassessment of the most current data available. Therefore, this is a dynamic list of projects that is subject to modification. In addition to the identified projects, UGI-GD must address mandatory replacements, non-repairable leakage, and emerging main issues that develop in the field and require immediate attention. Replacement of such segments of pipe is not reflected in Appendix B and will impact the ultimate timing of the completion of identified projects.

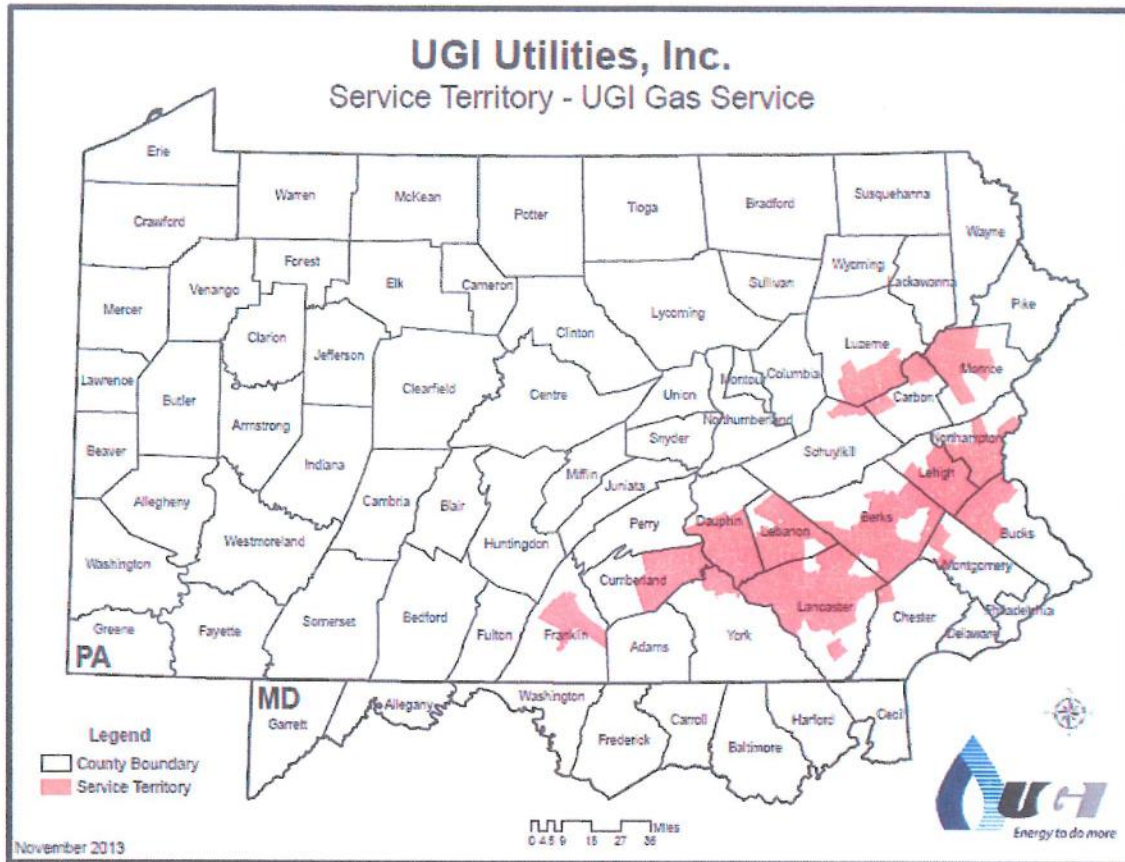
Certain circumstances, such as municipal government and Pennsylvania Department of Transportation construction projects, or changes in state or federal pipeline safety code also could impact UGI-GD's schedule and scale. Long term infrastructure improvement projects performed by the UGI-GD, and human and material assets associated with those projects, will be adjusted or changed as required to align with changing circumstances. Projects will be regularly reviewed and updated to ensure all projects are cost effective and provide the expected system integrity and reliability benefits.

3. LOCATION OF ELIGIBLE PROPERTY

UGI-GD will conduct projects distributed throughout its service territory. As described earlier, UGI-GD's service territory contains approximately 5,423 miles of natural gas distribution mains and 117 miles of natural gas transmission mains throughout 16 counties in and around Eastern and Central Pennsylvania. The UGI-GD map below

identifies the UGI-GD service territory. Eligible property is located in all parts of UGI-GD's service territory as depicted in Figure 9 below.

Figure 9. (UGI-GD Service Territory Map)



4. REASONABLE ESTIMATE OF THE QUANTITY OF PROPERTY TO BE IMPROVED

As described in the prior sections, the Company has identified numerous property types including cast iron and bare steel pipeline for replacement. The Company estimates that in 2014 approximately 62 miles of cast iron and bare steel mains will be replaced across all UGI Distribution Companies. For UGI-GD, the 2014 replacement plan includes replacement of approximately 33 miles of cast iron and bare steel mains. In each annual

asset optimization plan filed by UGI-GD, the Company will provide updated yearly replacement plans, based on its latest risk assessment process.

The following table provides estimates of the approximate schedule and units of property to be replaced at UGI-GD under the LTIP plan. UGI-GD anticipates replacing or repairing the following approximate amounts of DSIC eligible infrastructure.

Figure 10. Replacement Quantities and Rates

<u>Asset Type</u>	<u>Strategy</u>	<u>LTIP Schedule / Replacement Rate</u>
Distribution Mains – Cast Iron	Replace cast iron mains on a risk prioritized basis consistent with DIMP criteria	All mains replaced in 13 years, ending February 2027
Distribution Mains – Bare Steel	Replace bare steel mains on a risk prioritized basis consistent with DIMP criteria	All mains replaced in 28 years, ending September 2041
Coated Steel Mains	Replace coated steel main as required per mandatory replacements, non-repairable leakage, and emerging main issues	Replace as necessary to maintain system integrity
Transmission Mains	Retrofit transmission lines as required to perform assessments, replace / remediate as may be required per assessment findings	To be determined based upon requirement for assessments and assessment results
Services	Replace services in concert with main replacements	Replacement rate will be proportional to accelerated main replacement rates
Regulator & City Gate Stations	Replace stations and components on obsolescence / condition basis	Variable rate per year based on facility condition assessment & prioritization

Vintage Plastic	Replace mechanical tees, mechanical coupled valves, on an assessed condition basis, including replacement of header main as may be required	Replace as needed to maintain system integrity or at rate as determined by relative risk prioritization
Mandated Facility Relocations	Relocate infrastructure as required by highway agencies. Replace vintage infrastructure in path of highway improvements opportunistically to minimize future paving costs	As required by highway agencies
Related Capital Costs	Invest in tools, equipment, fleet, corrosion control, and information technology as required to enable LTIP	As required

5. PROJECTED ANNUAL EXPENDITURES AND MEASURES TO ENSURE THAT THE LTIP IS COST-EFFECTIVE

Projected Annual Budget for Upgrades

The table below provides a projection of total annual expenditures for the LTIP period, 2014 through 2018, for both UGI-GD specifically as well as the UGI Companies in total.

Figure 11. Projected LTIP Annual Expenditures 2014-2018

Fiscal Year	Capital Investment UGI-Gas (\$MM)	Capital Investment All UGI Companies (\$MM)
2014 Projected	\$51.2	\$85.1
2015 Projected	\$51.2	\$87.6
2016 Projected	\$51.2	\$88.1
2017 Projected	\$51.2	\$89.1
2018 Projected	\$51.2	\$89.1

Cost-Effectiveness

UGI-GD will be employing numerous oversight and control processes in order to ensure resources expended on its LTIIP projects are being prudently spent. The following methods are planned to increase cost effectiveness:

- Competitive bidding of multi-year pipeline construction and restoration contracts
 - Utilization of unit based pricing to limit change order impacts
 - Aggregation of UGI Distribution Companies' projects for bid purposes to gain economy of scale benefits
 - Provision of minimum guaranteed volume contracts to benefit from economies of scale
 - Issuance of special bids for large or unconventional projects
 - Recruitment of additional qualified contractors to increase the competitive nature of the process.
 - Evaluation and implementation of new or improved technologies to decrease costs, such as:
 - Directional drilling, insertion, and other minimally disruptive trenchless technology versus traditional direct burial
 - Key hole / core bore service replacement
 - Perform periodic HR staffing allocation reviews to assure optimal resource utilization and deployment.
-

In addition to the above, UGI-GD will monitor safety and reliability indicators for the natural gas distribution system over time in particular with a focus to evaluate corrosion and leak resolution performance, track emergency response, pursue damage prevention, and reinforce employee safety and safety improvement.

In order to increase construction efficiency in a way that maximizes the effectiveness of replacement capital, efforts shall be made at the start of each fiscal year to group planned replacement projects with others in a geographic region. Such an approach reduces costs associated with mobilization, materials delivery and stockpiling, and also improves inspection efficiency and safety performance.

Geographic planning of projects as described above will also reduce the impact to the community in which the projects occur by ensuring that replacement activities are completed with fewer mobilizations into and out of a community. As the construction crew completes main and service replacements, construction should move logically from one portion of an area to another, so that disruptions such as road closures, parking restrictions, construction noise and interruption of service are restricted to only the time required to complete the main and service replacement in the immediate area.

Overall, the UGI Distribution Companies will focus on continuously enhancing planning, response and facility restoration efforts. Changing circumstances impacting the accelerated facility restoration efforts will cause a need for constant review and update of the responses and techniques used. In addition, communication approaches, information

management systems and operations protocols used in facility improvement will need to be adjusted and continuously improved as well. The UGI Distribution Companies are refining the planning and resource alignment processes used in accelerated facilities improvement initiatives. The UGI Distribution Companies are constantly reviewing and evaluating facility information to continually enhance and refine the accuracy of infrastructure data.

Finally, UGI Distribution Companies will continue an evaluation of industry best practices, collaboration with industry partners, and interaction with regulatory agencies. Opportunities to enhance and expand the effectiveness of processes and procedures will be evaluated and considered to ensure continuous improvement of infrastructure that is cost-effective.

6. MANNER IN WHICH REPLACEMENT OF AGING INFRASTRUCTURE WILL BE ACCELERATED AND HOW REPAIR, IMPROVEMENT, OR REPLACEMENT WILL MAINTAIN SAFE AND RELIABLE SERVICE.

Acceleration

The UGI-GD LTIP reflects acceleration that has previously been agreed to by the UGI Distribution Companies and the Public Utility Commission. In an Order entered on February 19, 2013, the Pennsylvania Public Utility Commission approved a Joint Settlement Petition which, among other conditions, requires the UGI Distribution Companies to replace all cast iron mains over a 14 year period ending in February 2027

and all bare steel / wrought iron mains over a 30 year period ending in September 2041.¹⁰

The impact this commitment has on the overall infrastructure replacement rate and capital expenditures for the UGI Distribution Companies has been dramatic.

Accelerated Capital Investment by UGI-GD

In accordance with the accelerated replacement plan described above, the UGI Distribution Companies have already begun to ramp-up needed resources and capital spending levels. This acceleration started in 2012, and while prioritization of activities initially were largest at UGI-GD, the acceleration impacts – both current and planned – are evident across all of the UGI Distribution Companies, including UGI-GD.

For purposes of demonstrating the acceleration commitment made by the UGI Distribution Companies in this LTIIP for 2014 through 2018, a comparison to a three-year baseline average comprised of capital expenditures for 2009 through 2011 is shown below for both UGI-GD specifically, as well as the UGI Distribution Companies, in total.

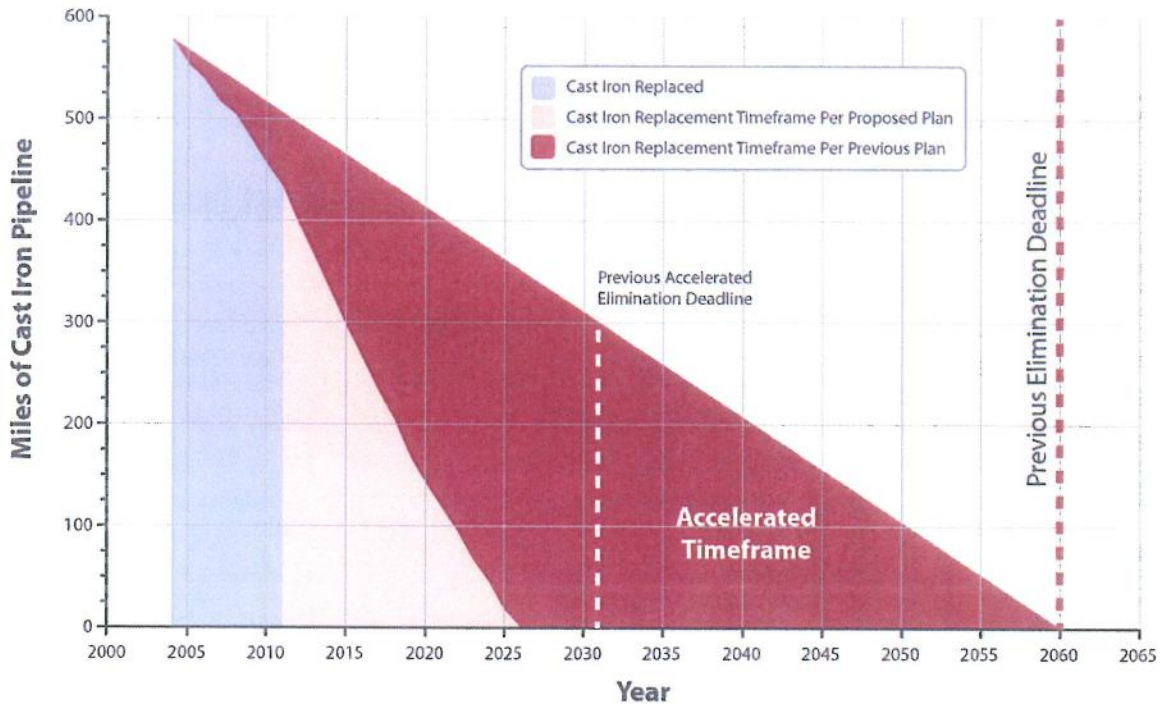
Fiscal Year		Capital Investment UGI-Gas (\$MM)	Capital Investment All UGI Distribution Companies (\$MM)
2009-2011 (Avg/yr)	Baseline	\$26.1	\$50.6
2012 Actual		\$35.7	\$61.1
2013 Actual		\$54.3	\$93.9
2014 Projected		\$51.2	\$85.1
2015 Projected		\$51.2	\$87.6
2016 Projected		\$51.2	\$88.1
2017 Projected		\$51.2	\$89.1
2018 Projected		\$51.2	\$89.1

¹⁰ Pennsylvania Public Utility Commission Opinion and Order Entered February 19, 2013, Docket C-2012-2308997

As demonstrated above the acceleration in UGI-GD DSIC eligible spend between 2018 projected spend and the 2009-2011 baseline period increases by 96%. Total DSIC eligible spend for all UGI Distribution Companies increases by 76%. This investment acceleration relates to a 17% increase in the amount of bare steel and cast iron main replaced (average 53.2 miles per year replaced in 2009-2011 baseline period vs. 62 miles per year during LTIP).

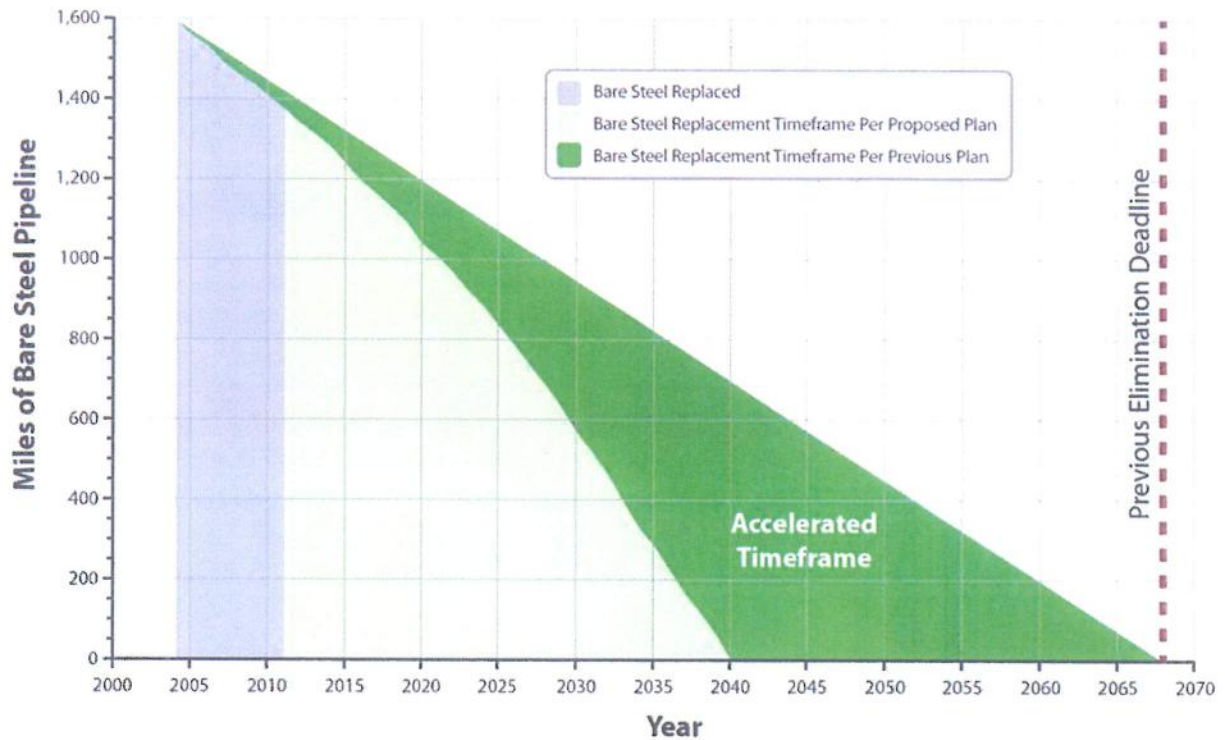
The overall plan to address cast iron distribution mains is to replace all such facilities by the end of February, 2027. The graph in Figure 12 below provides a visual representation of this plan versus the previous replacement timeframe which is based on the historical replacement trend. Per the accelerated replacement rate, all cast iron mains will be eliminated from the UGI Distribution Companies 33 years ahead of the prior timetable.

Figure 12. Accelerated Cast Iron Replacement



The overall plan to address bare steel and wrought iron mains is to replace all such facilities by October 2041. The graph in Figure 13 below provides a visual representation of this plan versus the previous replacement timeframe which is based on the historical replacement trend. Per the accelerated replacement rate, all bare steel / wrought iron mains will be eliminated from the UGI Distribution Companies 27 years ahead of the prior timetable.

Figure 13. Accelerated Bare Steel / Wrought Iron Replacement



While the overall replacement deadlines will remain fixed, for any given intermediate period the sequence of projects and amount of specific facilities to be addressed may be adjusted in response to changing conditions. A variety of factors, due to the nature of the natural gas distribution business, may cause these changes to occur. These factors include but are not limited to state and municipal relocation projects, other private construction projects, system upgrades due to pressure requirements, regulatory changes, and legislative changes.

Safe and Reliable Service

UGI-GD expects that the investment enumerated in this LTIIIP will provide customers with significant improvements in safety and reliability. Proposed LTIIIP replacement

investments have been identified and prioritized on a risk basis in accordance with UGI Distribution Companies' DIMP and TIMP plans. Risk based prioritization ensures that those projects which deliver the most significant reductions are addressed first. As the investment plan progresses, customer benefits will be manifested over time in terms of reduced leakage rates, fewer main breaks, and fewer unplanned customer interruptions. Additionally, it is expected that the amount of lost and unaccounted for gas due to system leakage and measurement inaccuracy will be reduced as leaks are eliminated and meters are replaced. Finally, peak day reliability will improve as pressure improvement projects will elevate system low points under peak day design conditions.

Project Coordination & Municipal Outreach

UGI-GD, as part of the UGI Distribution Companies, has a long-standing and active outreach program with local municipalities in its service territories aimed at coordinating construction projects. The municipal outreach program allows for clear communication of information about the natural gas distribution system safety, design and operations, as well as information regarding upcoming facility improvement projects. Coordination with municipal governments minimizes disruptions to residents in the area of proposed construction, enables efficient replacement of facilities, and promotes awareness of construction projects being performed around UGI Distribution Companies infrastructure.

Section 59.38, from Chapter 59 - Gas Service, requires each public utility to notify the Commission of all major construction, reconstruction or maintenance of plant at least 30 days prior to the commencement of work. Notification must be given when the estimated

expenditure for any single project exceeds \$300,000 on the sum of main, paving and service replacement costs. In order to increase communication with the Commission, notification shall be sent for multiple projects grouped by a close proximity that are estimated to total \$300,000 or more for main, paving and service replacements.

7. WORKFORCE MANAGEMENT AND TRAINING

Training and Operator Qualifications

Safety has always been a core value at UGI-GD. The UGI Distribution Companies conduct an Operator Qualification (OQ) Program to ensure that personnel performing critical tasks on all pipeline facilities have the necessary knowledge, skills and abilities. The OQ program includes more than 120 identified tasks, with many sub-parts within tasks, requiring extensive training, testing and qualification verification. Field technicians complete comprehensive safety courses including jobsite safety, driver safety, fire extinguisher use, pipefitting, hazardous materials recognition, abnormal operating condition recognition, emergency response, basic gas piping construction and maintenance, and leak detection.

UGI Distribution Companies utilizes an internal compliance department to perform regular quality and safety inspections of construction activities, and verification of qualifications of those individuals performing operator qualification covered tasks. Compliance inspectors perform unannounced job site inspections of both Company and contractor crews. Any deficiencies identified are escalated to Company or contractor management for investigation and correction.

UGI-GD currently utilizes construction inspectors, both internal and external, to inspect natural gas distribution facility projects constructed by contractor crews. Contractors working on the UGI-GD system must pass a rigorous review and meet all Department of Transportation regulatory requirements. Contractors must maintain current written documentation including operator qualification plans, safety plans, drug and alcohol abuse prevention plans.

Resource Requirements

It is anticipated that UGI Distribution Companies will hire incremental managers, supervisors, engineers, project managers, inspectors, and contractors in order to accelerate the replacement of the facilities per this plan. Currently, UGI Distribution Companies have hired external consulting resources to assist with engineering design workload as needed.

The UGI Distribution Companies have allied with universities and post-secondary technical schools and are partnering with the veteran's group Helmets to Hardhats to serve as resources in responding to the resource ramp-up required to support the LTIPs. The UGI Distribution Companies are also engaged in developing plans to recruit qualified individuals able to serve in Construction & Maintenance (C&M), Utility, Mechanic, and Technician positions.

Appendix A

Distribution Integrity Risk Evaluation

As part of the UGI Distribution Companies' Distribution Integrity Management Plan, on an ongoing basis several methods are employed to perform a relative risk ranking of assets for each Company. Commercially available pipeline risk evaluation software is utilized in conjunction with the data available from the UGI Distribution Companies' Geographic Information Systems to compute risks on individual main segments. The computed risks are utilized to prioritize the sequence of planned main replacements. Additionally, supplemental to the computerized risk model, on a quarterly basis, the UGI Distribution Companies gather individual Subject Matter Experts from each Company to update and validate the relative risk assessment of all distribution assets, discuss any new or emergent threats, and to communicate any recent distribution integrity issues. The outlines below summarize distribution infrastructure data considerations and distribution integrity threats incorporated in the UGI DIMP plan.

Physical Infrastructure

Pipe material

A. Plastic

- 1) Polyethylene (PE)
- 2) Polyamide 11 (PA11)
- 3) Poly Vinyl Chloride (PVC)
- 4) Fiberglass

B. Steel

- 1) Coated, protected
- 2) Coated, non-protected
- 3) Bare, protected
- 4) Bare, non-protected

C. Copper

- D. Cast iron
- E. Wrought iron
- F. Other

Pipe specifications

- A. Diameter
- B. Joint length, primarily for cast iron
- C. Steel pipe specifics as appropriate
 - 1) Grade (not typically relevant for low hoop stress operating pressures)
 - 2) Wall thickness
- D. Plastic pipe specifics
 - 1) Medium density/high density
 - 2) SDR
 - 3) Straight lengths (stick) or coil

Construction

- A. Year installed
- B. Joining Method (e.g., coupling, mechanical joint, bell and spigot, welded, threaded, fused, electro-fusion, adhesive)
- C. Installation method (e.g., open trench, inserts, boring, directional drilling, pad by others, common trench, etc.)
- D. Location (e.g., in street, behind curb, in private r/w)
- E. Cover
 - a. Depth (original, current, restored)
 - b. Type (e.g. backfill, pavement, grass/dirt, gravel/slag, aboveground)
- F. Company/contractor completing installation
- G. Casings
- H. Crossings (e.g. highway, bridge, underwater)
- I. Expansion loops (thermal effects)
- J. Pipe support systems

Corrosion control

- A. Below ground coating type – mill and field applied (e.g. coal tar, PE, fusion bonded epoxy, wax, cold or hot applied tapes, etc.)
- B. Cathodic protection type (e.g., galvanic anode, impressed current;)
- C. Electrical isolation (e.g., type, location)
- D. Stray current areas (e.g., interference, bonds, reverse current switch)
- E. Rock shield
- F. Above ground coating type

Valves

- A. Size
 - B. Type (e.g., ball, gate, plug)
 - C. Location
 - D. Usage (e.g., emergency, station shutoff, bypass, convenience)
 - E. Manufacturer
-

- F. Material of construction (e.g., same as pipe?)
- G. End connections
- H. Pressure rating (e.g., ANSI or WOG class)

System pressure regulation

- A. Regulator specification
- B. Location
- C. Design and typical inlet and outlet pressures
- D. Regulator capacity
- E. Operation (e.g., pilot, spring, weight)
- F. Manufacturer
- G. Means of overpressure protection (e.g., relief valve, monitor, slam shut, and combinations)
- H. Relief valve capacity and build-up as required.

Other

- A. Specialized components (e.g., EFVs, insulating joint or union, anodeless riser, expansion or other flexible joint)
- B. Field Fabricated fittings (e.g., reducing coupling, service entry jacket, leak repair device)
- C. “Priority facilities” under physical facilities security program

Historical Operating Information & Attributes

Results of inspections and surveys

- A. Leak surveys
- B. Corrosion inspections
- C. Valve inspections
- D. District regulator inspections
- E. Patrols
- F. Special field surveys or patrols (e.g., post-flooding patrols or winter/frost leak surveys)
- G. Liquids removal

Documentation of leaks and other maintenance performed

- A. Leak grade (“C” hazardous; “B”; and “A”)
 - B. Repair type
 - C. Exposed metallic pipe inspections
 - D. Corrosion control systems
 - E. Equipment or component replacements
 - F. Material or equipment failure reports
 - G. Number of leaks eliminated/repaired by cause of leak category (Part C of the Annual DOT Report)
 - H. Incident reports
-

Damage Prevention Locate / Excavation activity

- A. Damage records (e.g., Operator, one-call center)
- B. Responsible parties
- C. The number of underground locate requests received
- D. Proposed or completed significant construction activities

Geologic/environmental conditions

- A. Surface type at grade over pipeline
- B. Proximity to varying building types and density
- C. Earthquake zone
- D. Known washout areas
- E. Flood zones
- F. Minimum and maximum temperatures
- G. Soil types
- H. Land subsidence areas

Operating pressure

- A. Maximum actual/allowable operating pressure
- B. Minimum operating pressure experienced (e.g., peak day)
- C. Normal operating pressure
- D. Fluctuations (e.g., seasonal, random)
- E. Uprating performed in the past.

General Industry Information

In addition to company specific information, UGI monitors the activities of PHMSA, the American Gas Association, Plastic Pipe Data Committee, Gas Piping Technology Committee and industry publications to ensure that information related to failures experienced by other operators is known to UGI. Such information is used to compare information about other operators to that of UGI and to offer an additional source of information about failure data and materials and operating problems throughout the gas industry.

Threat Identification

The following general threat categories are considered in the DIMP plan:

- 1) Corrosion – resulting from a hole in the pipe or other component that was caused by galvanic, bacterial, chemical, stray current, or other corrosive action.
 - 2) Natural Forces – resulting from earth movements, earthquakes, landslides, subsidence, lightning, heavy rains/floods, washouts, flotation, mudslide, scouring, temperature, frost heave, frozen components, high winds, or similar natural causes.
-

- 3) Excavation Damage – resulting from damage caused by earth moving or other equipment, tools, or vehicles. Include leaks from damage by operator’s personnel or contractor or people not associated with the operator.
- 4) Other Outside Force Damage – caused by fire or explosion and deliberate or willful acts, such as vandalism and due to vehicle damage.
- 5) Material, Weld or Joint Failure – resulting from failure of original sound material from force applied during construction that caused a dent, gouge, excessive stress, or other defect that eventually resulted in a leak. This includes those due to faulty wrinkle bends, faulty field welds, and damage sustained in transportation to the construction or fabrication site, resulting from a defect in the pipe material, component, or the longitudinal weld or seam due to faulty manufacturing procedures.
- 6) Equipment Failure – resulting from malfunction of control/relief equipment including valves, regulators, or other instrumentation; stripped threads or broken pipe couplings on nipples, valves, or mechanical couplings; or seal failures on gaskets, O-rings, seal/pump packing, or similar leaks.
- 7) Incorrect Operation – resulting from inadequate procedures or safety practices, or failure to follow correct procedures, or other operator error.
- 8) Other – resulting from any other cause, such as exceeding the service life, not attributable to the above causes.

Consequence Factors

Weighting factors are established to represent consequences that may be anticipated in case of an integrity breach or failure involving the facility groups. Consequence factors are related to the location of the facility in relation to people and property as well as the amount of gas that could potentially be released. These are assigned in three general categories of (1) population / location, (2) operating pressure and (3) piping size.

Appendix B

2014 Planned UGI Main Replacement Projects

Cast Iron Main Replacements

<u>Project ID</u>	<u>Description</u>	<u>Cast Iron (ft)</u>
1363	N 5th Street, 300-400	2061
2187	S 6th Street, 100	1907
2663	Municipal Project	500
2689	Manor Street, 600-900	3741
3686	Butter Lane, 000-600	5339
3986	State Street, 1300-1700	2903
4023	N Cameron Street, 2000	50
4583	E Church Street, 00	670
4588	Broadway Street, 1100- 1200	1670
4607	Cedar Street, 800-900	1492
4612	S 15th Street, 400	550
4614	E Broad Street, 100	772
4618	Green Street, 900	616
4620	N 8th Street, 300	416

Long Term Infrastructure Improvement Plan
of UGI Utilities Inc. – Gas Division

4622	Ridge Avenue, 200	1728
4626	Liberty Street, 100-200	798
4630	E 3rd Street, 00	40
4631	E Broad Street, 200-300	1113
4632	S 21st Street, 500	196
4635	N 12th Street, 200	640
4639	Buchanan Street, 600	180
4641	E Garrison Street, 100	612
4643	Filmore Street, 300	529
4651	Hanover Avenue, 1800	452
4689	Arthur Street, 524-607	32
4706	Porter Street, 800	1260
4874	N 10th Street, 800	520
4879	S 9th Street, 400	940
4895	Buttonwood Street, 900- 1200	1280
4996	Grant Street, 300	203
4998	N 8th Street, 800	257
4999	S Franklin Street, 300-400	1246
5001	N Lumber Street, 400-500	624
5007	Washington Street, 400-500	1300
5008	Washington Street, 700	503

Long Term Infrastructure Improvement Plan
of UGI Utilities Inc. – Gas Division

5010	Allen Street, 700	369
5012	Jackson Street, 800	1531
5016	Hanover Street, 1300	1835
5019	N 4th Street, 800	1062
5030	E Ettwein Street, 00	302
5031	Monocacy Street, 1500	2432
5035	W Livingston Street, 1600	1448
5036	E. Highland, 2000	1160
5037	Liberty Street, 3000-3100	1083
5132	N 11th Street, 1000-1100	1015
5137	Linden Street, 1200-1500	2211
5140	N 6th Street, 1400	2640
5159	Hampden Boulevard, 1100- 1200	400
5168	Allen Street, 2200	590
5175	Maple Street, 1200	707
5178	Hamilton Avenue, 300	276
5179	Mixsell Street, 600	307
5180	Poplar Street, 800-900	1787
5181	E 9th Street, 400-500	1048
5183	Center Street, 1000-1200	1819
5186	Bird Street, 000	1158

Long Term Infrastructure Improvement Plan
of UGI Utilities Inc. – Gas Division

5187	N 3rd Street, 000	1457
5189	Oakwood Drive, 400	722
5191	Northampton Street, 700- 800	792
5192	Chestnut Street, 900-1000	750
5197	S 4th Street, 000-100	5800
5199	Atlantic Street, 800	344
5201	Packer Street, 600-900	1892
5202	S 10th Street, 100	435
5204	Gordon Street, 2100	712
5228	E Court Street, 400	331
5253	Walnut Street, 800	425
5254	S 7th Street, 400	140
5256	N 17th Street, 1000	260
5259	N Duke Street, 100	572
5260	S 13th Street, 200	517
5261	Daisy Street, 1600	2010
5278	E Walnut Street, 000-400	3526
5299	N Franklin Street, 100	820
5302	Ridge Avenue, 100	507
5304	S 12th Street, 100	359
5308	N 14th Street, 200-300	431

Long Term Infrastructure Improvement Plan
of UGI Utilities Inc. – Gas Division

5313	Pratt Street, 400	139
5316	N Lafayette Street, 500-600	1094
5322	N Hanover Street, 200-800	2484
5330	N West Street, 700	72
5331	S 8th Street, 700	1319
5335	S Howard Street, 1000	229
5337	S 2nd Street, 1400	3098
5339	Zarker Street, 1800-2000	4044
5341	Parkhill Street, 600	151
5347	Railroad Alley, 00	349
5349	N 2nd Street, 100-300	2743
5351	Limestone Alley, 300	778
5398	Ahead of Paving Project	7920
5458	E Green Street, 600-800	1602
5580	Walnut Street, 000-200	1030
5581	Locust Street, 000-200	825
5582	Pine Street, 000-200	790
5583	North Street, 200	1102
5587	Market Street, 300-1000	2155
5588	Forster Street, 400-500	560
5592	N 2nd Street, 200-600	3700
5593	N 2nd Street, 200-400	1100

Long Term Infrastructure Improvement Plan
of UGI Utilities Inc. – Gas Division

5594	N 2nd Street, 500-600	1190
5669	Pike Street, 500	870
5729	Van Buren Street, 1100	1166
5738	St George Street, 100	1905
5780	Chelsea Street, 1400-1500	986
5820	Dewey Avenue, 2200-2400	1034
5840	S Dauphin Street, 000	365
5848	N Franklin Street, 300	405
5852	Parker Avenue, 100	3424
5857	N 27th, 300	1574
5859	N Broad Street, 800	935
5875	N 3rd Street, 3000	511
5882	Grant Street, 2500	700
5883	Green Street, 700	386
5887	Cumberland Avenue, 2600- 2700	1388
5891	E Walnut Street, 300	466
5895	Pembroke Road, 1300	611
5896	Pineapple Street, 000	105
5903	Alder Street, 2400	1692
5912	Gordon Street, 1400-1500	896
5914	N 12th Street, 500-900	2792

Long Term Infrastructure Improvement Plan
of UGI Utilities Inc. – Gas Division

5915	N 12th Street, 1000-1100	976
5918	S 10th Street, 200	1075
5920	Church Street, 600	442
5922	Green Street, 1000	226
5941	Schuylkill Avenue, 600- 700	703
5944	Perkiomen Avenue, 2500	980
5953	Main Street, 00	574
5959	S Lime Street, 500-600	2029
5960	S Lime Street, 300-400	512
5967	Elm Street, 200	270
5968	W Clay Street, 000	258
5980	S Front Street, 300	1159
5986	N Front Street, 2400-2600	2200
5995	N Front Street, 1000-1400	2109
6368	W Cumberland Street, 700	779

Bare Steel Main Replacements

<u>Project ID</u>	<u>Description</u>	<u>Bare Steel (ft)</u>
1092	State Route 422, 000	1,500
1094	St Lawrence Avenue, 4200	1,500
1109	Tuckerton Road, 100	500
1277	S Lingle Avenue, 200-400	2,200
2630	Marietta Pike, 3000-3100	180
2640	S Enola Drive, 100	416
2641	S Enola Drive, 200-300	1,130
2648	Guilford Street, 1000-1100	1,340
2663	Municipal Project	500
4023	N Cameron Street, 2000	25
4025	E Cumberland Street, 700- 1400	1,798
4261	Buttonwood Street	1,100
4387	N 13th Street, 00-300	1,275
4393	Steel Avenue	492
4395	Emerick Terrace, 4300	608
4404	00-200	1,258
4513	W Chestnut Street, 300	50
4583	E Church Street, 00	480

Long Term Infrastructure Improvement Plan
of UGI Utilities Inc. – Gas Division

4607	Cedar Street, 800-900	50
4626	Liberty Street, 100-200	189
4631	E Broad Street, 200-300	73
4643	Filmore Street, 300	27
4689	Arthur Street, 524-607	1,345
4707	Chestnut St	118
4870	Penn Avenue, 2800-2900	750
4889	Renwick Street, 2000	454
5001	N Lumber Street, 400-500	356
5110	Reading Road, 1700	2,152
5111	Willow Park Road, 2000- 2200	1,257
5175	Maple Street, 1200	140
5183	Center Street, 1000-1200	61
5191	Northampton Street, 700- 800	7
5278	E Walnut Street, 000-400	2,024
5299	N Franklin Street, 100	172
5308	N 14th Street, 200-300	278
5398	Ahead of Paving Project	5,280
5404	Municipal Project	500
5588	Forster Street, 400-500	200

Long Term Infrastructure Improvement Plan
of UGI Utilities Inc. – Gas Division

5657	Morgantown Road, 300	500
5738	St George Street, 100	269
5859	N Broad Street, 800	395
5875	N 3rd Street, 3000	365
5956	Penn Avenue, 3700-3800	1,300
5957	Lafayette Street, 700	741
5958	Rodney Street, 000	379
5962	E New Street, 100	200
5963	Blue Ridge Drive, 1900	1,000
5970	N 3rd Street, 100	561
6005	N 39th Street, 000	355
6033	Church Street, 300-400	273
6034	N 27th Street, 000	469
6314	Princeton Avenue, 2100	400
6317	E 4th Street, 000-500	2,003

APPENDIX B

UGI Utilities Inc. - Gas Division

Long Term Infrastructure Improvement Plan 2014-2018

December 12, 2013
Modified on February 29, 2016

Introduction

UGI Utilities, Inc. – Gas Division (“UGI-GD” or the “Company”) respectfully submits this Long-Term Infrastructure Improvement Plan (“LTIIIP” or “Plan”) for the approval of the Pennsylvania Public Utility Commission (“Commission”) in accordance with the requirements of 66 Pa. C.S. § 1352(a) and the Commission’s Final Implementation Order, entered August 2, 2012, at Docket M-2012-2293611 (“Final Implementation Order”). As approved by the Commission, the UGI-GD LTIIIP shall serve to guide the Company’s accelerated infrastructure repair, improvement and replacement activities for the five year period 2014 through 2018 for its natural gas transmission and distribution facilities used in providing natural gas service to its customers located within the UGI-GD service territory.

The UGI-GD LTIIIP is being filed simultaneously with the LTIIIPs of UGI Penn Natural Gas (“UGI-PNG”) and UGI Central Penn Gas, Inc. (“UGI-CPG”). Hereinafter, UGI-GD, UGI-PNG and UGI-CPG shall be referred to collectively as the “UGI Distribution Companies.” Each company’s LTIIIP incorporates the joint facility replacement and betterment program of the UGI Distribution Companies.

The UGI-GD LTIIIP is structured to address the six specific factors set forth in the Commission’s Final Implementation Order. Accordingly, this LTIIIP includes the following sections:

- (1) Identification of the types and age of eligible property owned or operated by the utility for which the utility would seek recovery;
- (2) An initial schedule for the planned repair and replacement of eligible property;
- (3) A general description of the location of the eligible property;
- (4) A reasonable estimate of the quantity of eligible property to be improved;
- (5) Projected annual expenditures to implement the plan and measures taken to ensure that the plan is cost effective; and
- (6) The manner in which the replacement of aging infrastructure will be accelerated and how the repair, improvement or replacement will ensure and maintain adequate, efficient, safe, reliable and reasonable service.

UGI-GD will address each section in more detail below. Additionally, the Company will provide certain information about maintaining a qualified work force, as identified by the Commission in the Final Implementation Order.

Corporate Background

UGI Utilities, Inc. (“UGI Utilities”) is the wholly owned, utility subsidiary of UGI Corporation. It operates two regulated divisions encompassing a natural gas distribution operation, UGI-GD, and an electric distribution operation, UGI Utilities. – Electric Division (“UGI-ED”). It also wholly owns two natural gas distribution companies, UGI-PNG and UGI-CPG, which were separately acquired by UGI Utilities within the last

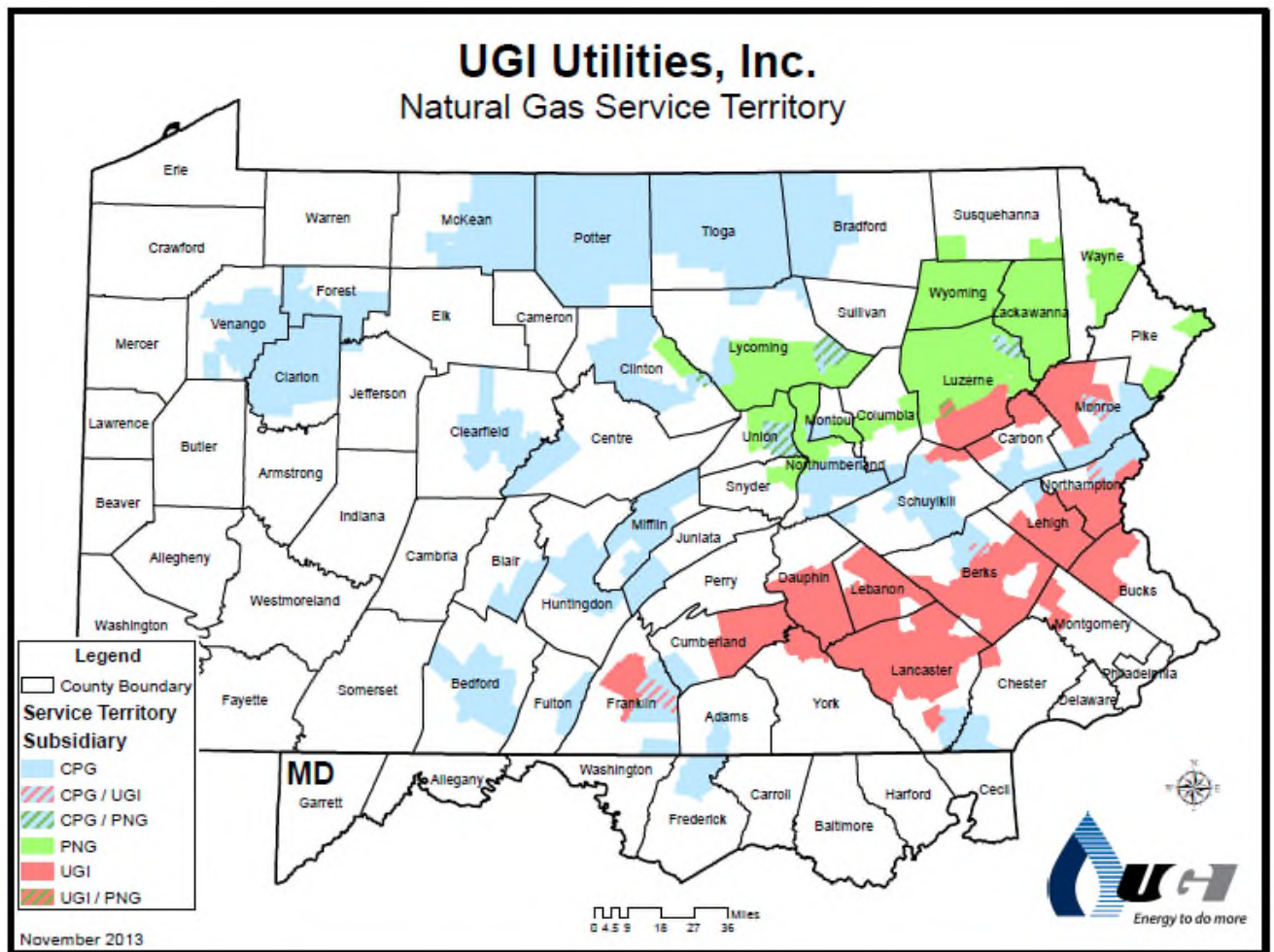
decade and operate under the shared executive management of UGI-GD. UGI-PNG began operations as a wholly owned subsidiary of UGI Utilities on September 1, 2006, through an acquisition of the assets from Southern Union Company.¹ UGI-CPG began operations as the wholly-owned subsidiary of UGI Utilities on October 1, 2008, via an acquisition of the stock of PPL Gas Utilities Corporation.²

The UGI Distribution Companies serve approximately 600,000 residential, commercial and industrial natural gas customers located in 45 of Pennsylvania's total 67 counties and spanning more than 700 municipalities. As shown in the map below, the service territories of the UGI Distribution Companies include the following cities: Allentown, Bethlehem, Easton, Harrisburg, Hazelton, Lancaster, Lebanon, Reading, Scranton, Wilkes-Barre, Lock Haven, Pittston, Pottsville, and Williamsport.

¹ In an Opinion and Order entered on August 18, 2006 at Docket Nos. A-120011F2000, A-125146F5000 and A-125146, the Commission, among other things, authorized UGI-PNG to: (1) become a wholly-owned subsidiary of UGI Utilities; (2) receive the gas distribution assets of the PG Energy Division of Southern Union Company; and (3) commence the provision of natural gas distribution service to the approximately 160,000 customers previously served by PG Energy in thirteen counties in northeastern Pennsylvania.

² In an Opinion and Order entered on August 21, 2008 at Docket Nos. A-2008-2034045, A-2008-2034047, A-2008-2034115 and A-2008-2034132, the Commission, among other things: (1) authorized UGI-CPG (formerly known as PPL Gas Utilities Corporation) to become a wholly owned subsidiary of UGI Utilities; and (2) affirmed CPG's right to render natural gas distribution service to customers residing in numerous municipalities located in 35 counties in Pennsylvania.

Figure 1. Map of UGI Distribution Companies' Service Territories



UGI-GD, UGI-PNG and UGI-CPG each is a “public utility” and a “natural gas distribution company,” as such terms are defined under the Public Utility Code, 66 Pa.C.S. §§ 102 and 2202, subject to the Commission’s regulatory jurisdiction. Each company renders natural gas distribution and purchase gas cost service to customers pursuant to their individual Commission-approved tariffs and certificate authorities. Together, the UGI Distribution Companies operate approximately 12,000 miles of natural gas mains in the Commonwealth of Pennsylvania.

More specifically, as of September 30, 2013, UGI-GD provides natural gas service to 356,075 customers located throughout its certificated service territory, which includes 16 counties in and around Eastern and Central Pennsylvania. The UGI-GD service territory includes five of Pennsylvania's 10 largest cities: Allentown, Bethlehem, Harrisburg, Lancaster and Reading, along with the suburban communities surrounding them. The UGI-GD service territory also includes rural communities as well. Its distribution system contains 5,423 miles of natural gas distribution mains and 117 miles of natural gas transmission mains.

UGI-PNG provides natural gas service to 162,523 customers as of September 30, 2013. These customers are located throughout a certificated service territory which includes 13 counties in and around Northeast Pennsylvania. The service territory of UGI-PNG is somewhat densely populated in and around the Cities of Wilkes-Barre, Scranton and Williamsport but otherwise consists of sparsely populated rural or suburban communities. Its system contains 2,575 miles of natural gas distribution mains and 66 miles of natural gas transmission mains.

UGI-CPG provides natural gas service to 78,175 Pennsylvania customers as of September 30, 2013. These customers are located throughout its certificated service territory, which includes 37 counties in Northeastern, Central and Northwestern Pennsylvania. UGI-CPG's service area is sparsely populated and non-integrated, as it is composed of mostly rural or distant suburban communities. Its distribution system contains 3,713 miles of natural gas mains and 110 miles of natural gas transmission mains.

1. TYPES AND AGE OF ELIGIBLE PROPERTY

UGI-GD has identified the following types of property as DSIC-eligible distribution infrastructure that will be replaced as part of its plan:

- Gas distribution & transmission mains, valves, fittings, couplings, and appurtenances
- Gas service lines including tees, excess flow valves, curb valves, first stage regulators, tubing / piping, and risers
- Gas meter sets including regulators, meter bars, meter set piping, meters, and telemetry
- District regulator stations and city gate stations including telemetry
- Mandated facility relocations, as related to highway projects (unreimbursed costs)
- Related capitalized costs - equipment, tools, corrosion control equipment, vehicles, and supporting information technology

In the following section of its Plan, the Company will address each of these categories of property.

Distribution Mains

Distribution mains are DSIC-eligible property under Section 1351(2)(i) of the Public Utility Code. UGI-GD's distribution mains are comprised of several different types of material including cast iron, wrought iron, unprotected bare steel, unprotected coated

steel, protected bare steel, protected coated steel, and plastic. Cast iron and bare steel make up approximately 15% of UGI Distribution Companies pipelines. For UGI-GD, those materials comprise 13.6% of its system. The remaining approximately 85% of pipelines of the UGI Distribution Companies are comprised of contemporary materials which include plastic and coated steel. For UGI-GD, contemporary materials compose 86.4% of the system.

Cast iron distribution and bare steel distribution mains are considered legacy distribution assets and are widely recognized as warranting prioritized attention in terms of risk management and accelerated replacement.

As of December 31, 2012, UGI-GD had a total of 5,423 miles of distribution mains in its system.

Figure 2. Miles of Distribution Mains as of 12/31/2012³

Type of Material	Miles	Percent of Total
Unprotected bare steel	260.2	4.8
Unprotected coated steel	129.2	2.4
Protected bare steel	131.8	2.4
Protected coated steel	1613.0	29.7
Ductile iron	0	0.0
Copper	0.1	0.0

³ Per UGI-GD 2012 Department of Transportation (“DOT”) report.

Cast / wrought iron	347.5	6.4
Plastic	2938.3	54.2
Other	3.0	0.1
Total	<u>5423.1</u>	<u>100.0</u>

Beginning in 2014, UGI-GD’s Plan reflects the accelerated replacement and removal of all cast iron and bare steel / wrought iron pipelines within 13 and 28 years, respectively, or by February 2017 and September 2041. Other mains will be replaced as may be necessary to maintain or improve system integrity and reliability, or as may be required to accommodate highway related projects.

UGI-GD distribution mains were installed over a significant period of time. While many of these older distribution mains are composed of contemporary materials, the majority of the older facilities are made of vintage materials. Accelerating the replacement of cast iron mains, bare steel mains, vintage plastic mains, and the appurtenances associated with them will significantly improve the overall age profile and performance of the UGI-GD distribution system.

Figure 3. Age Profile of UGI-GD Distribution Mains as of 12/31/12⁴

Decade of Installation	Mileage	Percent of Total
Unknown	1.8	0.0
Pre-1940	508.1	9.4

⁴ Ibid

1940s	77.1	1.4
1950's	536.6	9.9
1960's	729.6	13.4
1970's	421.2	7.8
1980's	693.2	12.8
1990's	1074.7	19.8
2000's	1214.0	22.4
2010's	166.8	3.1
Total	<u>5423.1</u>	<u>100.0</u>

Gas Service Lines

Gas service lines are the piping and/or tubing that connect the Company's mains to the meter sets. Service lines are constructed using the same materials as mains and are subject to the same elements that affect the physical integrity of the mains. In order to ensure that distribution service is reliable and safe, these service lines must be periodically replaced on the basis of condition or planned obsolescence. Gas service lines are DSIC eligible property under Section 1351(2) (iii) of the Public Utility Code.

Figure 4. Service Lines by Material as of 12/31/2012⁵

Service Material	Number of Services	Percent of Total
Unprotected bare steel	14,311	4.1
Unprotected coated steel	9,196	2.7
Protected bare steel	799	0.2
Protected coated steel	39,621	11.4

⁵ Ibid.

Ductile iron	0	0
Copper	10,871	3.2
Cast / wrought iron	2	0
Plastic	271,696	78.4
Other	23	0
Total Services	<u>346,519</u>	<u>100.0</u>

Gas services are typically replaced on a planned basis in conjunction with the replacement of the main to which they are connected. Coordinating replacements in this manner maximizes the efficient use of Company resources, and minimizes the inconvenience to customers. At the time of service line replacement, inside meters will be replaced with outside meters wherever practical to better facilitate company access.

Gas services may also be replaced in conjunction with meter move-outs. When meters are relocated from inside customer premises to outside, it is often convenient to simultaneously replace the affected service line. When coordinated in such a manner, future inconvenience to the customer is minimized by upgrading Company facilities in a single mobilization. Pursuant to the Commission’s Final Order issued on May 23, 2014 in Docket No. L-2009-2107155, UGI-GD must address all relocations on its system by September 13, 2034. As a result, the number of service line replacements will increase in proportion to the number of meter move-outs.

Excess Flow Valves

Excess flow valves are safety devices installed on gas service lines which interrupt the flow of gas in the event of a fully severed line, typically in the case of damage caused by excavation. As service lines are replaced, excess flow valves are installed in accordance with Subpart H of CFR 49 Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards Section 192.381. Excess flow valves are DSIC-eligible property under Section 1351(2)(v) of the Public Utility Code.

Mercury Regulators

Mercury regulators are a type of pressure reduction device which incorporate liquid mercury as over-pressure protection. Mercury regulators were generally installed prior to the early 1960s when spring loaded relief valves became the industry standard. As part of the LTIP, UGI plans to continue the replacement of mercury regulators. An estimated 7,000 mercury regulators remain in the UGI-GD system. Mercury regulators are DSIC-eligible property under Section 1351(2)(iii) of the Public Utility Code.

City Gate & District Regulator Stations

City Gate and District Regulator Stations are facilities which reduce system pressures as gas is distributed throughout the piping network. City Gate Stations are generally located at the point of custody transfer between the interstate pipelines and distribution systems, whereas District Regulator Stations are located within distribution systems. Regulator stations must be periodically updated or replaced as components such as piping and mechanical equipment age and wear. Additionally, over time mechanical components

such as regulators become obsolete and must be replaced with modern equipment to ensure availability of replacement parts and reliability. Regulating facilities may be replaced in whole or part depending upon the project objectives. Partial replacements could encompass equipment including but not limited to regulators, valves, heaters, metering, Supervisory Control And Data Acquisition (“SCADA”), and odorization. Some facilities will be eliminated through main replacement programs as low pressure systems are eliminated or where systems are otherwise consolidated. City Gate Stations and Distribution Regulator Stations are DSIC-eligible property under Section 1351(2)(i) and § 1351(2)(iv) of the Public Utility Code.

Figure 5. Number and Type of Regulator Stations

	City Gate Station	District Regulator Station	Total
UGI-GD	41	378	419

Vintage Plastic Pipe, Plastic Pipe Components, and Mechanical Fittings

Certain plastic pipe materials and fittings have been found to exhibit a higher than average potential for failure. UGI-GD has identified a type of tee, the fitting which joins the service line to the main, which may fail as the result of a compromised mechanical connection between the tee and main. A second type of plastic fitting, a service line curb valve with compression connections, has similarly exhibited a higher potential for failure. UGI-GD is engaged in ongoing surveillance and proactive repair and replacement of these fittings. When mechanical tees are replaced, a section of the host main is replaced,

and a new tee is connected by plastic fusion. Compression connection service line valves are addressed by replacing the affected service line. Finally, early vintage plastic pipes have been found to be subject to higher potential for brittle cracking type failures and are replaced on a risk prioritized basis. In total, approximately 2,900 compression connection valves and 19,800 mechanical tees will be reviewed and addressed as may be appropriate at UGI-GD. Finally, certain types of early vintage plastic pipes have been found to be subject to higher potential for brittle cracking type failures. UGI-GD will monitor vintage plastic pipe performance perform replacements on a risk prioritized basis as may be necessary to maintain reliability and integrity. The aforementioned plastic pipe and pipe components are DSIC-eligible property under Sections 1351(2)(i), 1351(2)(ii), 1351(2)(iii), 1351(2)(iv), and 1351(2)(v) of the Public Utility Code.

Transmission Mains & Infrastructure

UGI-GD maintains approximately 117 miles of natural gas transmission pipelines. Transmission pipelines are those mains which provide large volumes of gas at high pressures to provide service to entire cities and towns or large volume customers such as gas fired electric generation plants.

Maintaining the integrity of transmission infrastructure is necessary for both reliability and safety. In terms of reliability, transmission lines often provide service to many thousands of customers. Service interruptions can have wide spread regional consequences for many stakeholders. For these reasons, maintaining transmission

infrastructure to a high degree of integrity is paramount. Transmission mains are DSIC – eligible property under Sections 1351(2)(i) and 1351(2)(iv) of the Public Utility Code.

Figure 6. UGI-GD Transmission Mains by Material as of 12/31/12⁶

Type of Material	Miles	Percent of Total
Protected bare steel	0.5	0.4
Protected coated steel	115.9	99.4
Unprotected bare steel	0.1	0.1
Unprotected coated steel	0.1	0.1
Cast iron	0	0
Wrought Iron	0	0
Plastic	0	0
Composite	0	0
Other	0	0
Total	<u>116.6</u>	<u>100.0</u>

Figure 7. UGI-GD Transmission Mains by Age as of 12/31/12⁷

Decade of Installation	Mileage	Percent of Total
Unknown	0	0
Pre-1940	0	0
1940s	1.9	1.6
1950's	20.2	17.3

⁶ Per UGI-GD 2012 Department of Transportation (“DOT”) Transmission report.

⁷ Ibid

1960's	30	25.7
1970's	14.4	12.4
1980's	25.2	21.6
1990's	12.2	10.5
2000's	12.7	10.9
2010's	0	0
Total	<u>116.6</u>	<u>100.0</u>

Approximately 19% of the UGI-GD transmission system is pre-1960s vintage, or more than 50 years old. Ongoing investments in transmission infrastructure are necessary to maintain these assets to ever increasing contemporary standards. Specifically, investment in the retrofit of transmission pipelines to facilitate internal inspection, pressure testing, and other integrity assessment techniques may be required to meet transmission integrity management regulations. Furthermore, replacement of transmission assets, in response to assessment findings, may be required to maintain system integrity.

System Reliability Improvements

System Reliability Improvements are those investments required to maintain ongoing system reliability. Typical projects include investments in distribution or transmission infrastructure needed to reinforce system pressures to ensure firm peak-day deliverability. Investment in transmission and distribution mains is DSIC-eligible under Section 1351(2)(i) of the Public Utility Code.

UGI-GD utilizes system network models to predict system performance under peak operating conditions. Model results are validated against actual system operating

conditions using data from remote SCADA monitoring, system regulator station charts, and winter survey gauges. Specific reliability projects have been identified to improve system pressures as needed to maintain system reliability design criteria to firm customers. Additional projects may be identified in the future subject to system performance and reliability.

Meters

UGI-GD replaces meters as may be necessary to maintain compliance with gas measurement accuracy standards as stipulated in 52 PA Code Section 59.21. UGI-GD maintains a statistical sampling program to evaluate meter accuracy. Should a grouping of meters fail to meet accuracy requirements, the meters are repaired or replaced. Replacement meters are DSIC eligible property under Section 1351(2)(viii) of the Public Utility Code.

Mandated Facility Relocations

UGI-GD is periodically required to relocate gas facilities to accommodate highway improvement projects. The unreimbursed portion of these costs is DSIC eligible property under Section 1351(2)(ix) of the Public Utility Code. When contemporary facilities are impacted, UGI-GD seeks to coordinate such projects to minimize the extent of facility relocation. When non-contemporary facilities, such as cast iron, bare steel, or vintage plastic are involved, the relocation projects provide an opportunity for infrastructure replacement.

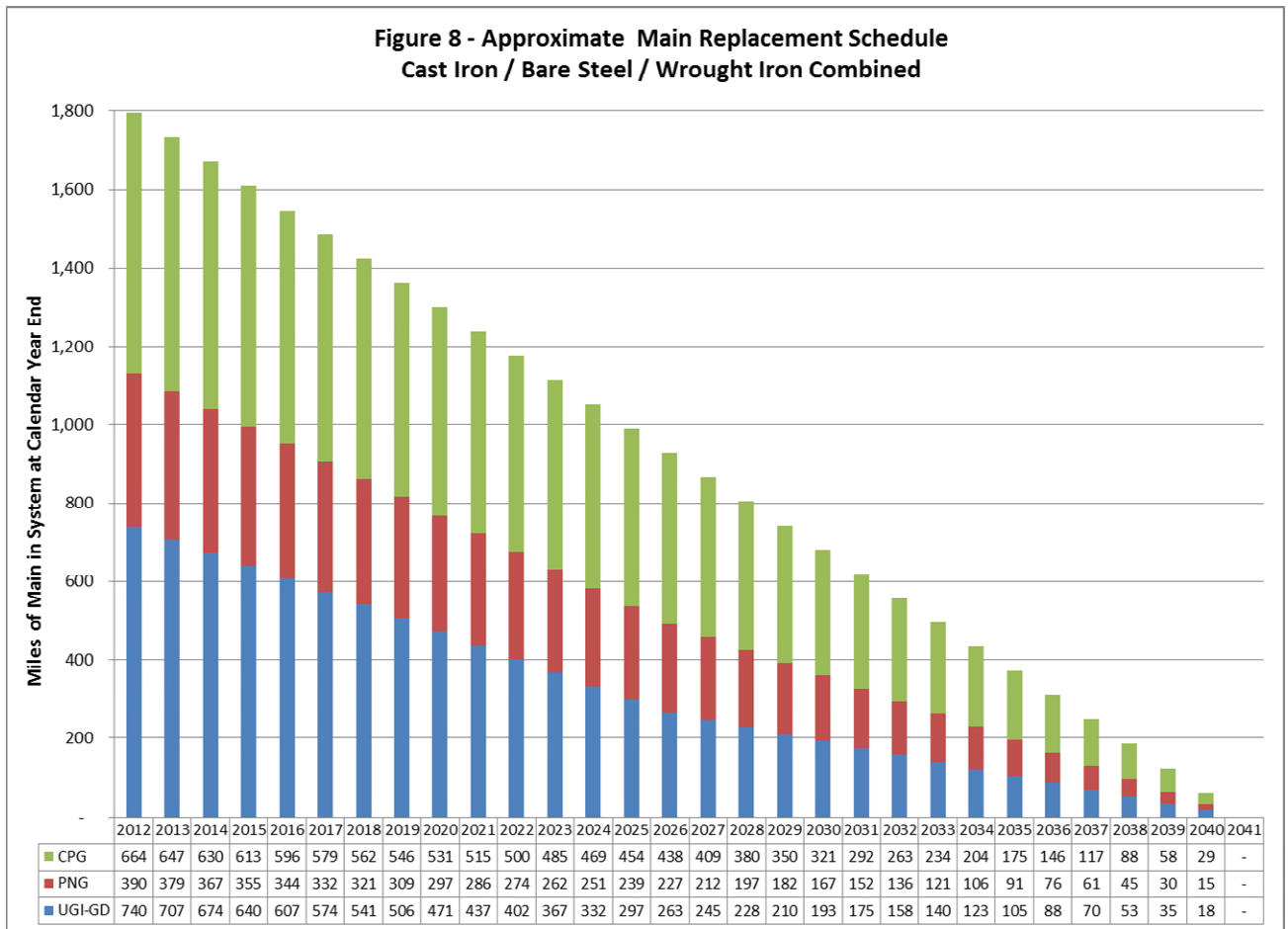
Related Capitalized Costs

The replacement of DSIC eligible property described above may result in additional related costs incurred that are essential and necessary in order to efficiently manage specific accelerated capital improvement projects. Examples include but are not limited to tools, equipment, fleet, corrosion control, and information technology investments. These related costs are DSIC eligible property under Section 1351(2)(x) of the Public Utility Code.

2. SCHEDULE FOR PLANNED REPLACEMENT OF ELIGIBLE PROPERTY

The UGI-GD LTIP reflects acceleration in the rate of infrastructure repair, improvement and replacement over historical levels. In particular, the accelerated replacement in this plan conforms with the Settlement Agreement approved by the Pennsylvania Public Utility Commission at Docket No. C-2012-2308997 (“Settlement Agreement”). Under the Settlement Agreement, the UGI Distribution Companies will replace all cast iron and bare steel pipelines located within their combined systems. As of the date of the Plan filing, cast iron replacement will be completed in 13 years ending in February 2027, and bare steel / wrought iron replacement will be completed in 28 years ending in September 2041. This replacement rate, on a combined basis, represents a significant acceleration over historical replacement rates.

As depicted in the Figure 8⁸ below, it is anticipated that UGI-GD will replace approximately 33 miles of combined cast iron and bare steel mains in 2014. The specific allocation of mileage between cast iron and bare steel main replacement will vary annually depending on annual risk evaluations and project specific considerations. Additionally, the amount of the annual UGI Distribution Companies’ 62 mile main replacement plan allocated to UGI-GD will vary as risks are annually re-evaluated and re-prioritized across all UGI Distribution Companies.



⁸ The replacement schedule presented in Figure 8 is a forecast based on known mileage of cast iron, bare steel, and wrought iron as of 12/31/12. Subsequent revisions of main classifications, as determined through field verification or records review, will modify this projection.

Under the accelerated main replacement program UGI-GD will focus on replacing existing cast iron and bare steel /wrought iron mains and related facilities. While certain bare steel facilities will be replaced in early years, the initial schedule emphasizes cast iron replacement until the final cast iron retirements are completed by March 1, 2027. Subsequently, replacement efforts shift to an emphasis on bare steel.

Main replacement risk evaluation is based on numerous factors, including the pipe condition, age, coating, type of ground cover, geographical proximity to structures, and prior leak and/or break history. Appendix A provides a detailed listing of factors considered in the risk based evaluation. Additionally, specific projects may be escalated to enable coordination of replacement efforts with municipal roadway resurfacing projects.

The UGI Distribution Companies perform an annual review to identify the highest risk pipe segments and prioritize those replacements each year. UGI Distribution Companies utilize commercial risk evaluation software in concert with a team of Subject Matter Experts to evaluate, prioritize, and bundle replacement projects. This hybrid approach targets the highest risk mains first while also balancing the need to maximize the efficient deployment of capital and resources.

This approach is consistent with the UGI Distribution Companies' Transmission Integrity Management Program ("TIMP") and Distribution Integrity Management Program

("DIMP") in accordance with Subpart P of 49 CFR Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards. The purpose of the UGI Distribution Companies' TIMP & DIMP is to enhance public safety by identifying risks, assessing and prioritizing the risks, and implementing additional and accelerated actions or preventative and mitigative measures to reduce risks. As the UGI Distribution Companies continue to implement the TIMP & DIMP, other pipeline assets may be identified for repair, improvement or replacement as their conditions are evaluated and relative risks are reviewed and prioritized.

A list of planned DSIC eligible main replacement projects is included with the Company's Annual Asset Optimization Plan ("AAOP"). This listing is developed and reviewed one or more times each year based on a reassessment of the most current data available. Therefore, this is a dynamic list of projects that is subject to modification. In addition to the identified projects, UGI-GD must address mandatory replacements, non-repairable leakage, and emerging main issues that develop in the field and require immediate attention. Replacement of such segments of pipe is not reflected in the AAOP and will impact the ultimate timing of the completion of identified projects.

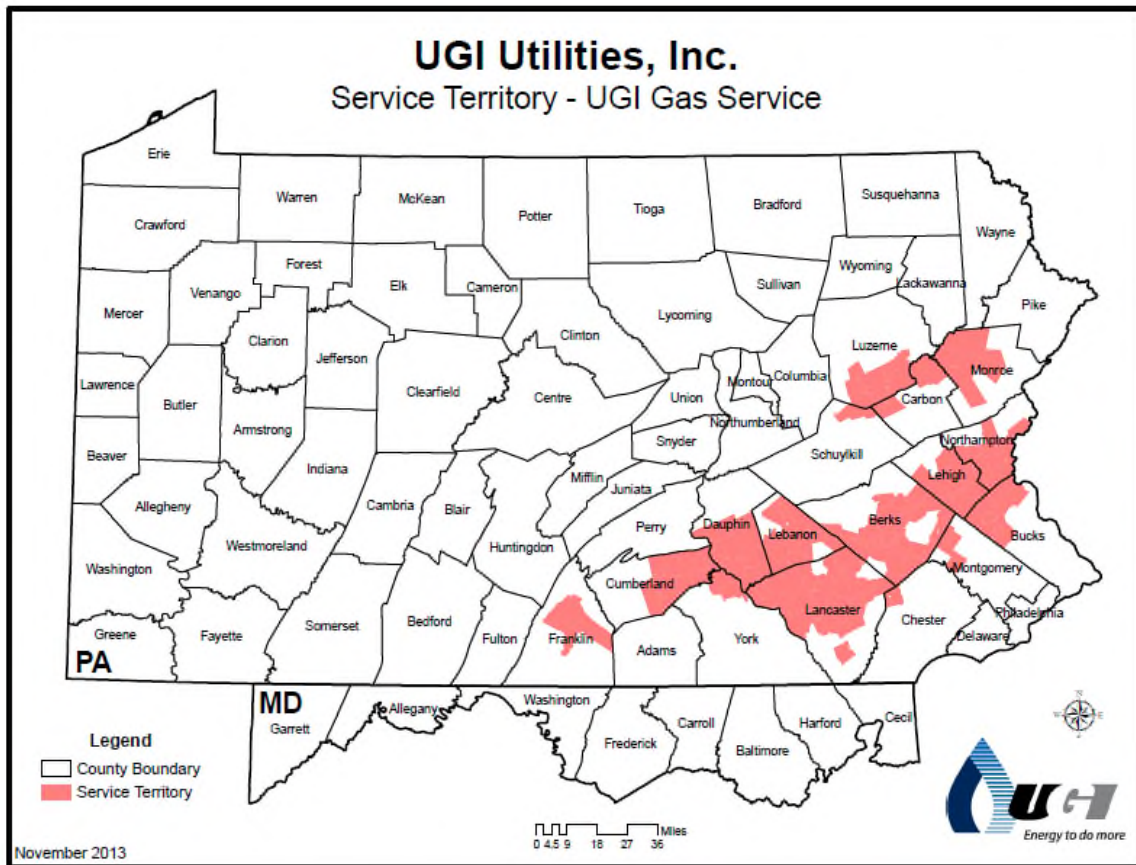
Certain circumstances, such as municipal government and Pennsylvania Department of Transportation construction projects, or changes in state or federal pipeline safety code also could impact UGI-GD's schedule and scale. Long term infrastructure improvement projects performed by the UGI-GD, and human and material assets associated with those projects, will be adjusted or changed as required to align with changing circumstances.

Projects will be regularly reviewed and updated to ensure all projects are cost effective and provide the expected system integrity and reliability benefits.

3. LOCATION OF ELIGIBLE PROPERTY

UGI-GD will conduct projects distributed throughout its service territory. As described earlier, UGI-GD's service territory contains approximately 5,423 miles of natural gas distribution mains and 117 miles of natural gas transmission mains throughout 16 counties in and around Eastern and Central Pennsylvania. The UGI-GD map below identifies the UGI-GD service territory. Eligible property is located in all parts of UGI-GD's service territory as depicted in Figure 9 below.

Figure 9. (UGI-GD Service Territory Map)



4. REASONABLE ESTIMATE OF THE QUANTITY OF PROPERTY TO BE IMPROVED

As described in the prior sections, the Company has identified numerous property types including cast iron and bare steel pipeline for replacement. The Company estimates that in 2014 approximately 62 miles of cast iron and bare steel mains will be replaced across all UGI Distribution Companies. For UGI-GD, the 2014 replacement plan includes replacement of approximately 33 miles of cast iron and bare steel mains. In each annual asset optimization plan filed by UGI-GD, the Company will provide updated yearly replacement plans, based on its latest risk assessment process.

The following table provides estimates of the approximate schedule and units of property to be replaced at UGI-GD under the LTIP plan. UGI-GD anticipates replacing or repairing the following approximate amounts of DSIC eligible infrastructure.

Figure 10. Replacement Quantities and Rates

<u>Asset Type</u>	<u>Strategy</u>	<u>LTIP Schedule / Replacement Rate</u>
Distribution Mains – Cast Iron	Replace cast iron mains on a risk prioritized basis consistent with DIMP criteria	All mains replaced in 13 years, ending February 2027
Distribution Mains – Bare Steel	Replace bare steel mains on a risk prioritized basis consistent with DIMP criteria	All mains replaced in 28 years, ending September 2041
Coated Steel Mains	Replace coated steel main as required per mandatory replacements, non-repairable leakage, and emerging main issues	Replace as necessary to maintain system integrity
Transmission Mains	Retrofit transmission lines as required to perform assessments, replace / remediate as may be required per assessment findings	To be determined based upon requirement for assessments and assessment results
Services	Replace services in concert with main replacements	Replacement rate will be proportional to accelerated main replacement rates
Regulator & City Gate Stations	Replace stations and components on obsolescence / condition basis	Variable rate per year based on facility condition assessment & prioritization
Vintage Plastic	Replace mechanical tees, mechanical coupled valves, on an assessed condition basis, including replacement of header main as may be required	Replace as needed to maintain system integrity or at rate as determined by relative risk prioritization

Mandated Facility Relocations	Relocate infrastructure as required by highway agencies. Replace vintage infrastructure in path of highway improvements opportunistically to minimize future paving costs	As required by highway agencies
Related Capital Costs	Invest in tools, equipment, fleet, corrosion control, and information technology as required to enable LTIP	As required

5. PROJECTED ANNUAL EXPENDITURES AND MEASURES TO ENSURE THAT THE LTIP IS COST-EFFECTIVE

Projected Annual Budget for Upgrades

The table below provides a projection of total annual expenditures for the LTIP period, 2014 through 2018, for both UGI-GD specifically as well as the UGI Companies in total.

Figure 11. Projected LTIP Annual Expenditures 2014-2018

Fiscal Year	Capital Investment UGI-Gas (\$MM)	Capital Investment All UGI Companies (\$MM)
2014 Actual	\$59.0	\$93.5
2015 Actual	\$62.5	\$108.2
2016 Projected	\$92.9	\$155.9
2017 Projected	\$90.5	\$135.7
2018 Projected	\$66.0	\$111.2

Cost-Effectiveness

UGI-GD will be employing numerous oversight and control processes in order to ensure resources expended on its LTIP projects are being prudently spent. The following methods are planned to increase cost effectiveness:

- Competitive bidding of multi-year pipeline construction and restoration contracts
- Utilization of unit based pricing to limit change order impacts
- Aggregation of UGI Distribution Companies' projects for bid purposes to gain economy of scale benefits
- Provision of minimum guaranteed volume contracts to benefit from economies of scale
- Issuance of special bids for large or unconventional projects
- Recruitment of additional qualified contractors to increase the competitive nature of the process.
- Evaluation and implementation of new or improved technologies to decrease costs, such as:
 - Directional drilling, insertion, and other minimally disruptive trenchless technology versus traditional direct burial
 - Key hole / core bore service replacement
- Perform periodic HR staffing allocation reviews to assure optimal resource utilization and deployment.

In addition to the above, UGI-GD will monitor safety and reliability indicators for the natural gas distribution system over time in particular with a focus to evaluate corrosion and leak resolution performance, track emergency response, pursue damage prevention, and reinforce employee safety and safety improvement.

In order to increase construction efficiency in a way that maximizes the effectiveness of replacement capital, efforts shall be made at the start of each fiscal year to group planned replacement projects with others in a geographic region. Such an approach reduces costs associated with mobilization, materials delivery and stockpiling, and also improves inspection efficiency and safety performance.

Geographic planning of projects as described above will also reduce the impact to the community in which the projects occur by ensuring that replacement activities are completed with fewer mobilizations into and out of a community. As the construction crew completes main and service replacements, construction should move logically from one portion of an area to another, so that disruptions such as road closures, parking restrictions, construction noise and interruption of service are restricted to only the time required to complete the main and service replacement in the immediate area.

Overall, the UGI Distribution Companies will focus on continuously enhancing planning, response and facility restoration efforts. Changing circumstances impacting the accelerated facility restoration efforts will cause a need for constant review and update of the responses and techniques used. In addition, communication approaches, information management systems and operations protocols used in facility improvement will need to be adjusted and continuously improved as well. The UGI Distribution Companies are refining the planning and resource alignment processes used in accelerated facilities improvement initiatives. The UGI Distribution Companies are constantly reviewing and

evaluating facility information to continually enhance and refine the accuracy of infrastructure data.

Finally, UGI Distribution Companies will continue an evaluation of industry best practices, collaboration with industry partners, and interaction with regulatory agencies. Opportunities to enhance and expand the effectiveness of processes and procedures will be evaluated and considered to ensure continuous improvement of infrastructure that is cost-effective.

6. MANNER IN WHICH REPLACEMENT OF AGING INFRASTRUCTURE WILL BE ACCELERATED AND HOW REPAIR, IMPROVEMENT, OR REPLACEMENT WILL MAINTAIN SAFE AND RELIABLE SERVICE.

Acceleration

The UGI-GD LTIIIP reflects acceleration that has previously been agreed to by the UGI Distribution Companies and the Public Utility Commission. In an Order entered on February 19, 2013, the Pennsylvania Public Utility Commission approved a Joint Settlement Petition which, among other conditions, requires the UGI Distribution Companies to replace all cast iron mains over a 14 year period ending in February 2027 and all bare steel / wrought iron mains over a 30 year period ending in September 2041.⁹ The impact this commitment has on the overall infrastructure replacement rate and capital expenditures for the UGI Distribution Companies has been dramatic.

⁹ Pennsylvania Public Utility Commission Opinion and Order Entered February 19, 2013, Docket C-2012-2308997

Accelerated Capital Investment by UGI-GD

In accordance with the accelerated replacement plan described above, the UGI Distribution Companies have already begun to ramp-up needed resources and capital spending levels. This acceleration started in 2012, and while prioritization of activities initially were largest at UGI-GD, the acceleration impacts – both current and planned – are evident across all of the UGI Distribution Companies, including UGI-GD.

For purposes of demonstrating the acceleration commitment made by the UGI Distribution Companies in this LTIP for 2014 through 2018, a comparison to a three-year baseline average comprised of capital expenditures for 2009 through 2011 is shown below for both UGI-GD specifically, as well as the UGI Distribution Companies, in total.

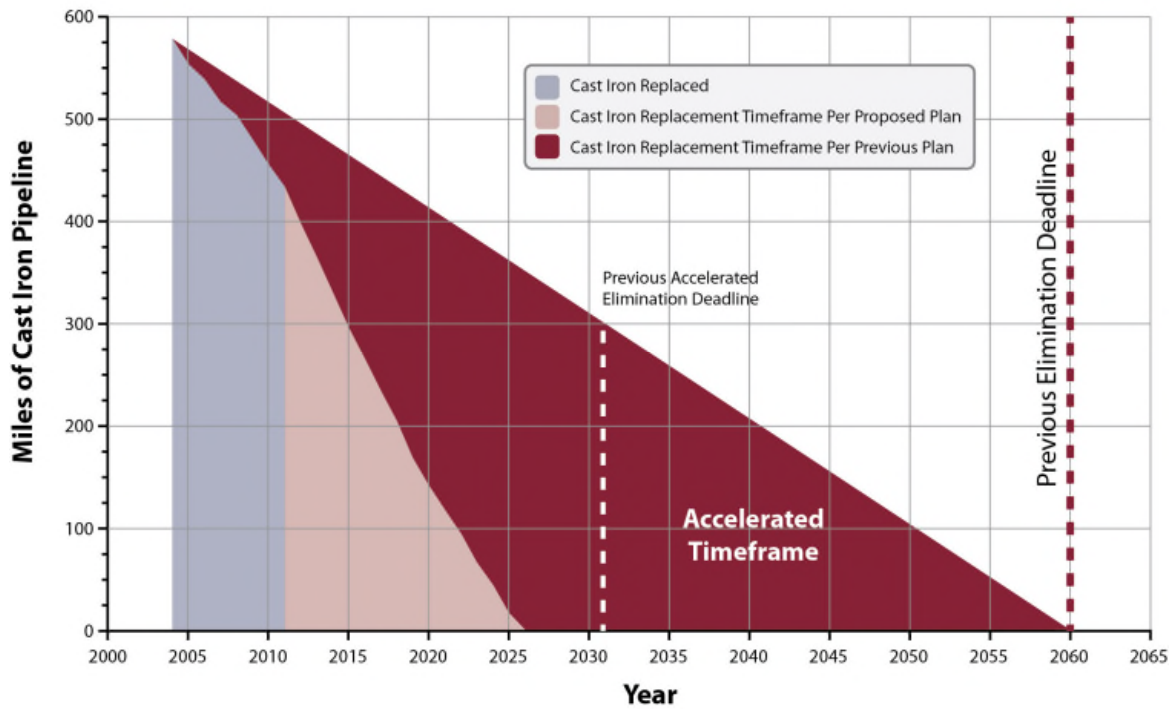
Fiscal Year	Capital Investment UGI-Gas (\$MM)	Capital Investment All UGI Distribution Companies (\$MM)
2009-2011 Baseline (Avg/yr)	\$26.1	\$50.6
2012 Actual	\$35.7	\$61.1
2013 Actual	\$54.3	\$93.9
2014 Actual	\$59.0	\$93.5
2015 Actual	\$62.5	\$108.2
2016 Projected	\$92.9	\$155.9
2017 Projected	\$90.5	\$135.7
2018 Projected	\$66.0	\$111.2

As demonstrated above the acceleration in UGI-GD DSIC eligible spend between 2018 projected spend and the 2009-2011 baseline period increases by 153%. Total DSIC eligible spend for all UGI Distribution Companies increases by 120%. This investment acceleration relates to a 17% increase in the amount of bare steel and cast iron main

replaced (average 53.2 miles per year replaced in 2009-2011 baseline period vs. 62 miles per year during LTIP).

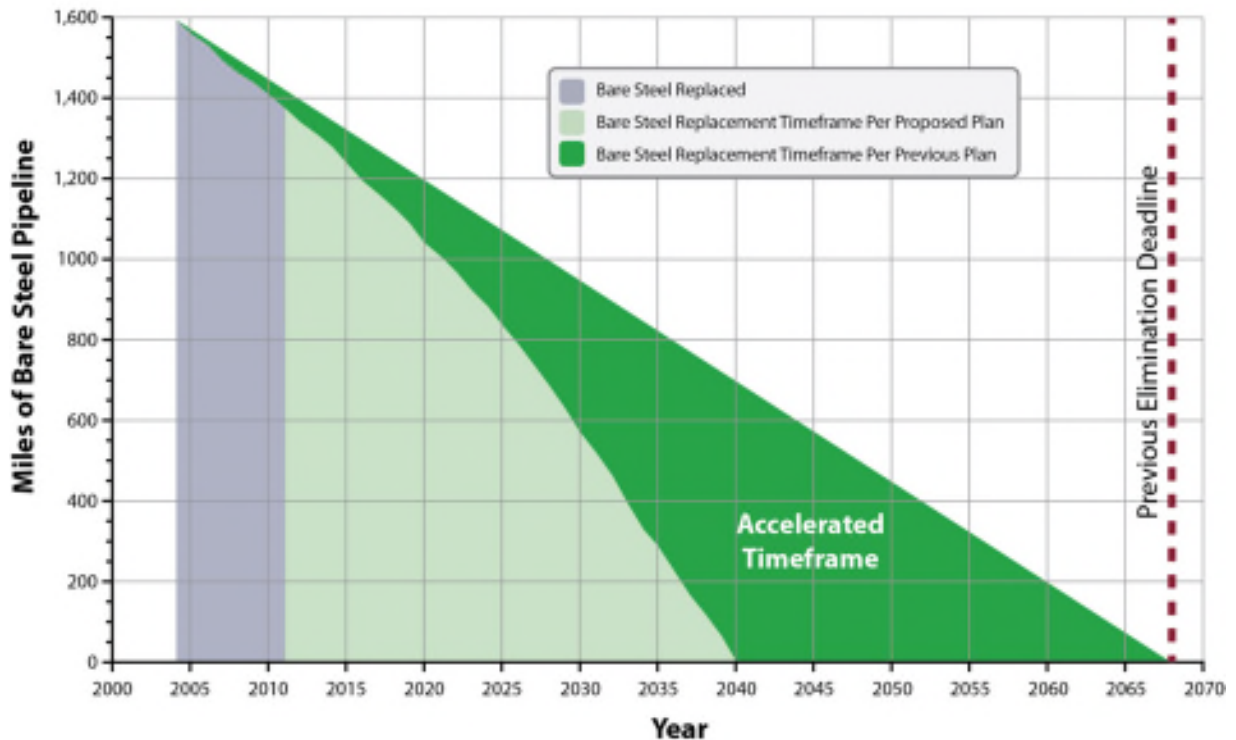
The overall plan to address cast iron distribution mains is to replace all such facilities by the end of February, 2027. The graph in Figure 12 below provides a visual representation of this plan versus the previous replacement timeframe which is based on the historical replacement trend. Per the accelerated replacement rate, all cast iron mains will be eliminated from the UGI Distribution Companies 33 years ahead of the prior timetable.

Figure 12. Accelerated Cast Iron Replacement



The overall plan to address bare steel and wrought iron mains is to replace all such facilities by October 2041. The graph in Figure 13 below provides a visual representation of this plan versus the previous replacement timeframe which is based on the historical replacement trend. Per the accelerated replacement rate, all bare steel / wrought iron mains will be eliminated from the UGI Distribution Companies 27 years ahead of the prior timetable.

Figure 13. Accelerated Bare Steel / Wrought Iron Replacement



While the overall replacement deadlines will remain fixed, for any given intermediate period the sequence of projects and amount of specific facilities to be addressed may be adjusted in response to changing conditions. A variety of factors, due to the nature of the natural gas distribution business, may cause these changes to occur. These factors include but are not limited to state and municipal relocation projects, other private construction projects, system upgrades due to pressure requirements, regulatory changes, and legislative changes.

Safe and Reliable Service

UGI-GD expects that the investment enumerated in this LTIP will provide customers with significant improvements in safety and reliability. Proposed LTIP replacement investments have been identified and prioritized on a risk basis in accordance with UGI Distribution Companies' DIMP and TIMP plans. Risk based prioritization ensures that those projects which deliver the most significant reductions are addressed first. As the investment plan progresses, customer benefits will be manifested over time in terms of reduced leakage rates, fewer main breaks, and fewer unplanned customer interruptions. Additionally, it is expected that the amount of lost and unaccounted for gas due to system leakage and measurement inaccuracy will be reduced as leaks are eliminated and meters are replaced. Finally, peak day reliability will improve as pressure improvement projects will elevate system low points under peak day design conditions.

Project Coordination & Municipal Outreach

UGI-GD, as part of the UGI Distribution Companies, has a long-standing and active outreach program with local municipalities in its service territories aimed at coordinating construction projects. The municipal outreach program allows for clear communication of information about the natural gas distribution system safety, design and operations, as well as information regarding upcoming facility improvement projects. Coordination with municipal governments minimizes disruptions to residents in the area of proposed construction, enables efficient replacement of facilities, and promotes awareness of construction projects being performed around UGI Distribution Companies infrastructure.

Section 59.38, from Chapter 59 - Gas Service, requires each public utility to notify the Commission of all major construction, reconstruction or maintenance of plant at least 30 days prior to the commencement of work. Notification must be given when the estimated expenditure for any single project exceeds \$300,000 on the sum of main, paving and service replacement costs. In order to increase communication with the Commission, notification shall be sent for multiple projects grouped by a close proximity that are estimated to total \$300,000 or more for main, paving and service replacements.

7. WORKFORCE MANAGEMENT AND TRAINING

Training and Operator Qualifications

Safety has always been a core value at UGI-GD. The UGI Distribution Companies conduct an Operator Qualification (OQ) Program to ensure that personnel performing critical tasks on all pipeline facilities have the necessary knowledge, skills and abilities.

The OQ program includes more than 120 identified tasks, with many sub-parts within tasks, requiring extensive training, testing and qualification verification. Field technicians complete comprehensive safety courses including jobsite safety, driver safety, fire extinguisher use, pipefitting, hazardous materials recognition, abnormal operating condition recognition, emergency response, basic gas piping construction and maintenance, and leak detection.

UGI Distribution Companies utilizes an internal compliance department to perform regular quality and safety inspections of construction activities, and verification of qualifications of those individuals performing operator qualification covered tasks. Compliance inspectors perform unannounced job site inspections of both Company and contractor crews. Any deficiencies identified are escalated to Company or contractor management for investigation and correction.

UGI-GD currently utilizes construction inspectors, both internal and external, to inspect natural gas distribution facility projects constructed by contractor crews. Contractors working on the UGI-GD system must pass a rigorous review and meet all Department of Transportation regulatory requirements. Contractors must maintain current written documentation including operator qualification plans, safety plans, drug and alcohol abuse prevention plans.

Resource Requirements

It is anticipated that UGI Distribution Companies will hire incremental managers, supervisors, engineers, project managers, inspectors, and contractors in order to

accelerate the replacement of the facilities per this plan. Currently, UGI Distribution Companies have hired external consulting resources to assist with engineering design workload as needed.

The UGI Distribution Companies have allied with universities and post-secondary technical schools and are partnering with the veteran's group Helmets to Hardhats to serve as resources in responding to the resource ramp-up required to support the LTIIPs. The UGI Distribution Companies are also engaged in developing plans to recruit qualified individuals able to serve in Construction & Maintenance (C&M), Utility, Mechanic, and Technician positions.

Appendix A

Distribution Integrity Risk Evaluation

As part of the UGI Distribution Companies' Distribution Integrity Management Plan, on an ongoing basis several methods are employed to perform a relative risk ranking of assets for each Company. Commercially available pipeline risk evaluation software is utilized in conjunction with the data available from the UGI Distribution Companies' Geographic Information Systems to compute risks on individual main segments. The computed risks are utilized to prioritize the sequence of planned main replacements. Additionally, supplemental to the computerized risk model, on a quarterly basis, the UGI Distribution Companies gather individual Subject Matter Experts from each Company to update and validate the relative risk assessment of all distribution assets, discuss any new or emergent threats, and to communicate any recent distribution integrity issues. The outlines below summarize distribution infrastructure data considerations and distribution integrity threats incorporated in the UGI DIMP plan.

Physical Infrastructure

Pipe material

- A. Plastic
 - 1) Polyethylene (PE)
 - 2) Polyamide 11 (PA11)
 - 3) Poly Vinyl Chloride (PVC)
 - 4) Fiberglass
 - B. Steel
 - 1) Coated, protected
 - 2) Coated, non-protected
 - 3) Bare, protected
 - 4) Bare, non-protected
 - C. Copper
-

- D. Cast iron
- E. Wrought iron
- F. Other

Pipe specifications

- A. Diameter
- B. Joint length, primarily for cast iron
- C. Steel pipe specifics as appropriate
 - 1) Grade (not typically relevant for low hoop stress operating pressures)
 - 2) Wall thickness
- D. Plastic pipe specifics
 - 1) Medium density/high density
 - 2) SDR
 - 3) Straight lengths (stick) or coil

Construction

- A. Year installed
- B. Joining Method (e.g., coupling, mechanical joint, bell and spigot, welded, threaded, fused, electro-fusion, adhesive)
- C. Installation method (e.g., open trench, inserts, boring, directional drilling, pad by others, common trench, etc.)
- D. Location (e.g., in street, behind curb, in private r/w)
- E. Cover
 - a. Depth (original, current, restored)
 - b. Type (e.g. backfill, pavement, grass/dirt, gravel/slag, aboveground)
- F. Company/contractor completing installation
- G. Casings
- H. Crossings (e.g. highway, bridge, underwater)
- I. Expansion loops (thermal effects)
- J. Pipe support systems

Corrosion control

- A. Below ground coating type – mill and field applied_(e.g. coal tar, PE, fusion bonded epoxy, wax, cold or hot applied tapes, etc.)
- B. Cathodic protection type (e.g., galvanic anode, impressed current;)
- C. Electrical isolation (e.g., type, location)
- D. Stray current areas (e.g., interference, bonds, reverse current switch)
- E. Rock shield
- F. Above ground coating type

Valves

- A. Size
 - B. Type (e.g., ball, gate, plug)
 - C. Location
 - D. Usage (e.g., emergency, station shutoff, bypass, convenience)
 - E. Manufacturer
-

- F. Material of construction (e.g., same as pipe?)
- G. End connections
- H. Pressure rating (e.g., ANSI or WOG class)

System pressure regulation

- A. Regulator specification
- B. Location
- C. Design and typical inlet and outlet pressures
- D. Regulator capacity
- E. Operation (e.g., pilot, spring, weight)
- F. Manufacturer
- G. Means of overpressure protection (e.g., relief valve, monitor, slam shut, and combinations)
- H. Relief valve capacity and build-up as required.

Other

- A. Specialized components (e.g., EFVs, insulating joint or union, anodeless riser, expansion or other flexible joint)
- B. Field Fabricated fittings (e.g., reducing coupling, service entry jacket, leak repair device)
- C. “Priority facilities” under physical facilities security program

Historical Operating Information & Attributes

Results of inspections and surveys

- A. Leak surveys
- B. Corrosion inspections
- C. Valve inspections
- D. District regulator inspections
- E. Patrols
- F. Special field surveys or patrols (e.g., post-flooding patrols or winter/frost leak surveys)
- G. Liquids removal

Documentation of leaks and other maintenance performed

- A. Leak grade (“C” hazardous; “B”; and “A”)
 - B. Repair type
 - C. Exposed metallic pipe inspections
 - D. Corrosion control systems
 - E. Equipment or component replacements
 - F. Material or equipment failure reports
 - G. Number of leaks eliminated/repaired by cause of leak category (Part C of the Annual DOT Report)
 - H. Incident reports
-

Damage Prevention Locate / Excavation activity

- A. Damage records (e.g., Operator, one-call center)
- B. Responsible parties
- C. The number of underground locate requests received
- D. Proposed or completed significant construction activities

Geologic/environmental conditions

- A. Surface type at grade over pipeline
- B. Proximity to varying building types and density
- C. Earthquake zone
- D. Known washout areas
- E. Flood zones
- F. Minimum and maximum temperatures
- G. Soil types
- H. Land subsidence areas

Operating pressure

- A. Maximum actual/allowable operating pressure
- B. Minimum operating pressure experienced (e.g., peak day)
- C. Normal operating pressure
- D. Fluctuations (e.g., seasonal, random)
- E. Upgrading performed in the past.

General Industry Information

In addition to company specific information, UGI monitors the activities of PHMSA, the American Gas Association, Plastic Pipe Data Committee, Gas Piping Technology Committee and industry publications to ensure that information related to failures experienced by other operators is known to UGI. Such information is used to compare information about other operators to that of UGI and to offer an additional source of information about failure data and materials and operating problems throughout the gas industry.

Threat Identification

The following general threat categories are considered in the DIMP plan:

- 1) Corrosion – resulting from a hole in the pipe or other component that was caused by galvanic, bacterial, chemical, stray current, or other corrosive action.
 - 2) Natural Forces – resulting from earth movements, earthquakes, landslides, subsidence, lightning, heavy rains/floods, washouts, flotation, mudslide, scouring, temperature, frost heave, frozen components, high winds, or similar natural causes.
-

- 3) Excavation Damage – resulting from damage caused by earth moving or other equipment, tools, or vehicles. Include leaks from damage by operator’s personnel or contractor or people not associated with the operator.
- 4) Other Outside Force Damage – caused by fire or explosion and deliberate or willful acts, such as vandalism and due to vehicle damage.
- 5) Material, Weld or Joint Failure – resulting from failure of original sound material from force applied during construction that caused a dent, gouge, excessive stress, or other defect that eventually resulted in a leak. This includes those due to faulty wrinkle bends, faulty field welds, and damage sustained in transportation to the construction or fabrication site, resulting from a defect in the pipe material, component, or the longitudinal weld or seam due to faulty manufacturing procedures.
- 6) Equipment Failure – resulting from malfunction of control/relief equipment including valves, regulators, or other instrumentation; stripped threads or broken pipe couplings on nipples, valves, or mechanical couplings; or seal failures on gaskets, O-rings, seal/pump packing, or similar leaks.
- 7) Incorrect Operation – resulting from inadequate procedures or safety practices, or failure to follow correct procedures, or other operator error.
- 8) Other – resulting from any other cause, such as exceeding the service life, not attributable to the above causes.

Consequence Factors

Weighting factors are established to represent consequences that may be anticipated in case of an integrity breach or failure involving the facility groups. Consequence factors are related to the location of the facility in relation to people and property as well as the amount of gas that could potentially be released. These are assigned in three general categories of (1) population / location, (2) operating pressure and (3) piping size.

Appendix B

See Appendices B and C in the Company's Annual Asset Optimization Plan.

Exhibit No. 3

**Certification Regarding
Base Rate Proceeding**

I, Paul J. Szykman, Vice President, Rates & Government Relations, Vice President & General Manager – Electric Utilities, of UGI Utilities, Inc., hereby certify that pursuant to 66 Pa. C.S. § 1353(b)(4) UGI Utilities, Inc. – Gas Division (“UGI-GD”) has filed a base rate proceeding within five years of March 31, 2016, which is the date of its initial petition to establish a Distribution System Improvement Charge authorized by 66 Pa. C.S. § 1353. Specifically, UGI-GD is currently involved in a base rate proceeding before the Commission at Docket No. R-2015-2518438, which was filed on January 19, 2016.

Date: March 31, 2016



Paul J. Szykman
Vice President, Rates & Government Relations
Vice President & General Manager – Electric Utilities
UGI Utilities, Inc.
2525 N. 12th Street
Reading, PA 19612-2677

TESTIMONY

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**UGI UTILITIES, INC. – GAS DIVISION
DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)**

UGI STATEMENT NO. 1

**DIRECT TESTIMONY OF
WILLIAM J. McALLISTER**

Dated: March 31, 2016

1 **Q. Please state your name and business address.**

2 A. My name is William J. McAllister, and my business address is 2525 N. 12th Street, Suite
3 360, Reading, Pennsylvania 19612.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am employed by UGI Utilities, Inc. (“UGI” or the “Company”) as a Principal Analyst.
6 In my role, I am responsible for numerous rate activities for the UGI distribution
7 companies: UGI Utilities, Inc. – Gas Division (“UGI-GD”), UGI Utilities, Inc. – Electric
8 Division (“UGI-ED”), UGI Penn Natural Gas, Inc. (“UGI-PNG”) and UGI Central Penn
9 Gas, Inc. (“UGI-CPG”).

10 **Q. What is your educational background?**

11 A. I graduated from Villanova University with a Bachelor of Science Degree in
12 Mathematics. I have received certification in the Principles of Public Utility Operation
13 and Management from Public Utilities Report, Inc. I have taken graduate level courses at
14 the Pennsylvania State University at Harrisburg. I have also completed numerous
15 industry related training programs and seminars, including the American Gas Association
16 (“AGA”) Rate Course and the AGA Advanced Rate Course.

17 **Q. Please describe your employment since graduating from Villanova University.**

18 A. Upon graduation in 1974, I was employed as a Statistical Analyst with UGI's Gas Utility
19 Division. This position involved (1) various assignments relating to rate design and
20 competitive analysis, (2) preparing related rate filings such as the monthly Fuel Cost
21 Adjustment (FCA), the State Tax Surcharge (STS), and (3) assisting in the preparation of
22 general rate filings. In 1976, I was promoted to Rate Analyst. In 1980, I was promoted
23 to the position of Senior Rate Analyst. In 2011, I was promoted to my current position of

1 Principal Analyst. Since 1985, I have been involved to a significant extent in the
2 preparation of UGI-GD's PGC tariff filings and related PGC computations. More
3 recently, I prepared UGI-GD's interim and quarterly PGC rate changes. Additionally, I
4 developed UGI-GD's Section 1307(a) filings to recover Take-or-Pay (TOP) costs,
5 Transition Costs, and Education Costs. I also assisted in developing UGI-GD's Low
6 Income Self Help Program (LISHP) Rider that initially became effective December 2,
7 2005, and assisted in developing UGI's quarterly LISHP adjustments since then,
8 including the change implemented on June 1, 2010. Similarly, I have coordinated the
9 development of the USP Rider surcharges for both UGI-PNG and UGI-CPG. Most
10 recently, I've assisted in Base Rate Case filings for UGI-PNG and UGI-CPG, the
11 Merchant Function Charge and Purchase of Receivable filings for UGI-GD and the
12 development of the Energy Efficiency and Conservation Program for UGI-ED.

13 **Q. Have you previously testified before the Pennsylvania Public Utility Commission?**

14 A. Yes. I have testified in each of UGI's PGC proceedings since 1988, in UGI's 1307(a)
15 proceedings at Docket Nos. R-00943259 and R-00943063, and in the UGI Customer
16 Choice proceeding at Docket No. R-00994786. I presented direct testimony in UGI-
17 PNG's PGC proceedings at Docket Nos. R-2009-2105909, R-2010-2172922, R-2011-
18 2238949, R-2012-2302219, and R-2013-2361771. I've presented testimony in the last
19 five UGI-CPG PGC proceedings, as well as the Energy Efficiency and Conservation Plan
20 proceedings for UGI-ED at Docket No. M-2010-2210316. I also presented testimony on
21 behalf of UGI-PNG and UGI-CPG in their DSIC proceedings at Docket Nos. P-2013-
22 2397056 and P-2013-2398835.

23

1 **Q. What is the purpose of your testimony?**

2 A. The enactment of Act 11 of 2012, as described in the Commission's Final
3 Implementation Order at Docket M-2012-2293611, established a rate mechanism known
4 as a Distribution System Improvement Charge ("DSIC"). UGI-GD is proposing to
5 implement a DSIC rate with this Petition. I will describe the initial DSIC calculation and
6 the method used to determine the DSIC rate. I will explain how the DSIC will be applied
7 across the Company's various customer groups. I will describe the changes we are
8 proposing to our tariff to reflect the implementation of the DSIC. Finally, I will explain
9 the Company's plan to implement the DSIC, including our accounting practices, and our
10 notice to customers and ongoing communication plans.

11 **Q. Please begin by describing the various components provided in this filing.**

12 A. The Company has provided the following:

- 13 a) Exhibit No. 1 to the Petition, which is a *pro forma* tariff and reflects the tariff
14 changes resulting from this proposal;
- 15 b) Exhibit No. 2 to the Petition, which includes as Appendix A the Long Term
16 Infrastructure Improvement Plan ("LTIIP") for UGI-GD which was approved by
17 the Commission on July 31, 2014, and as Appendix B the Modified LTIIP filed
18 by UGI-GD on February 29, 2016, which has not yet been acted upon by the
19 Commission;
- 20 c) Exhibit No. 3, which is the certification stating that UGI-GD has filed a base rate
21 case within five years prior to the date of this filing;
- 22 d) This testimony, UGI Statement No. 1, as well as the testimony of Hans Bell, UGI
23 Statement No. 2, in support of the filing;

1 e) Exhibit No. WJM-1 to this testimony, which sets forth an illustrative calculation
2 of the DSIC rate based on the forecasted ability to utilize a non-zero DSIC on
3 January 1, 2018; and

4 f) Exhibit No. WJM-2 to this testimony, which represents a draft of the bill insert
5 that will be mailed to all customers.

6 **Q. Please describe the pro forma tariff.**

7 A. Exhibit No. 1 to this Petition is UGI-GD's proposed DSIC tariff. The Company
8 developed its DSIC based on the Commission's model tariff in its Final Implementation
9 Order, as well as the tariffs approved by the Commission in Docket Nos. P-2013-
10 2397056 and P-2013-2398835 for use by UGI-PNG and UGI-CPG.

11 **Q. Please describe the costs included in the calculation of the Company's proposed**
12 **DSIC.**

13 A. We began our calculation by identifying eligible property. Eligible property is defined in
14 § 1351(2) of the statute. Consistent with the Commission's Final Implementation Order,
15 UGI-GD identified eligible property in the tariff based on FERC account number. The
16 eligible property, as more fully explained in the Company's LTIP, includes items such
17 as piping, couplings, gas service lines, valves, risers and meters. I would note that, as
18 described in the testimony of Mr. Bell, there is no difference in the categories of eligible
19 property identified in the two LTIPs included in Exhibit No. 2. Therefore, for the
20 purposes of my testimony, I will not distinguish between the two versions, unless I am
21 discussing an element that UGI-GD has proposed to alter as part of the Modified LTIP
22 (*i.e.*, actual and projected investment). NGDCs are permitted to recover fixed costs
23 associated with improvements, repairs or replacements to eligible property. Fixed costs

1 include depreciation and pre-tax return. The total projected fixed costs included in this
2 initial calculation are reflected on Exhibit No. WJM-1.

3 **Q. Are the costs included in the DSIC calculation and tariff supplement consistent with**
4 **those in the LTIP?**

5 A. Yes. The costs presented within Exhibit No. 1 are the same costs identified by the
6 Company as DSIC-eligible in the LTIP included as Exhibit No. 2.

7 **Q. Please describe the effective date.**

8 A. UGI-GD is proposing an effective date of January 1, 2017. UGI-GD is currently in a
9 base rate proceeding at Docket No. R-2015-2518438. While the outcome of that
10 proceeding is currently unknown, UGI-GD seeks to have a DSIC in place prior to the end
11 of the period covered by the fully projected future test year being used in the base rate
12 proceeding, which is September 30, 2017. If the DSIC is made effective as of January 1,
13 2017, it will be made effective at 0.0%, and remain at 0.0% until such time as UGI-GD
14 has exceeded the DSIC-eligible plant identified in the base rate proceeding. UGI-GD
15 believes this is appropriate in order to avoid any regulatory lag or gap between the end of
16 its fully projected future test year and the date when UGI-GD can recover investment
17 through the DSIC.

18 **Q. Using the costs you describe, how did you design the DSIC rate?**

19 A. Please see Exhibit No. WJM-1, page 1, for the illustration of the DSIC surcharge
20 calculation. DSIC eligible property of approximately \$16.5 million was projected for the
21 quarterly filing that will be made in December 2017, to be effective on January 1, 2018.
22 Accumulated depreciation is then deducted resulting in net DSIC eligible property. The
23 net DSIC eligible property is then multiplied by the pre-tax return rate (projected at 12%)

1 times 1/4 to generate the quarterly return component of DSIC fixed costs. Added to this
2 return component is related quarterly depreciation expense. The sum of these two
3 components (\$577,873) is then divided by total DSIC projected quarterly revenue of
4 \$69.8 million. UGI-GD has elected the quarterly revenue approach to determine the
5 DSIC surcharge. Thus, both the fixed costs and annual revenues are divided by four. I
6 note that the 0.83% calculated DSIC surcharge as shown on Exhibit No. WJM-1 is an
7 illustration based on projected amounts and at a summary level. When UGI-GD submits
8 its DSIC quarterly filings, those filings will be predicated on actual amounts related to
9 DSIC eligible property and will include the detailed schedules supporting the calculated
10 DSIC surcharge in a similar fashion as is done for the UGI-PNG and UGI-CPG quarterly
11 DSIC filings which are filed with the Commission. Also, as previously stated, UGI-GD's
12 DSIC will remain at 0.0% until such time as it has exceeded the DSIC-eligible plant
13 identified in the base rate proceeding.

14 **Q. Will the DSIC apply to competitive customers?**

15 A. It is the Company's intention to apply the DSIC to all customers. However, due to
16 contractual constraints, the Company has competitive accounts that are not currently
17 eligible for the application of a rider such as the DSIC. In these cases, the Company will
18 not apply the DSIC charge to the customer's bill prior to the expiration of the current
19 contract. While the Company intends to negotiate to apply the DSIC to all competitive
20 customers as of the beginning of a new contract term, due to the highly competitive
21 nature of certain customer situations, the Company anticipates having to possibly reduce
22 or eliminate the Rider DSIC to any existing or new customer with competitive
23 alternatives or flexed, discounted or negotiated rates. I note that this issue was presented

1 in the DSIC proceedings of UGI-PNG and UGI-CPG, and UGI-GD has adopted tariff
2 language consistent with the resolution of that issue in the other proceedings.

3 **Q. How will the proposed DSIC be reflected in the Company's tariff?**

4 A. Included as Exhibit No. 1 to this Petition is a pro-forma tariff. This *pro forma* tariff
5 reflects the addition of the Rider DSIC (13.8D) on pages 38(b) through 38(d). The DSIC
6 surcharge will be applied to a customer's total bill exclusive of purchase gas costs
7 ("PGC") and state tax surcharge revenues. Thus, Rider DSIC has been added to each of
8 the rate schedule *pro forma* tariff pages.

9 **Q. Please explain what projected revenues are being utilized to calculate the rate.**

10 A. As stated on 38(c) of the proposed tariff, the Company has elected to utilize the one
11 quarter of annual revenue approach to calculating projected revenue. The annual revenue
12 reflected in the DSIC calculation is based on actual results for all customers for twelve
13 months ending September 30, 2017, normalized for weather. The quarterly amount of
14 \$69.8 million excludes PGC revenue and state tax surcharge revenue. The use of the one
15 quarter of annual revenue approach will result in a more consistent DSIC rate from
16 quarter to quarter. To the extent the Company must reduce or eliminate the DSIC charge
17 for any existing or new customer with competitive alternatives or flexed, discounted or
18 negotiated rates, the revenues used in the DSIC calculation will be commensurately
19 reduced.

20 **Q. Does UGI-GD's DSIC include the costs of tools, equipment and vehicles?**

21 A. Yes, it does. Act 11 specifically provides for the inclusion of "other related capitalized
22 costs" in the definition of property which is DSIC-eligible. 66 Pa C.S. § 1351(2)(x).
23 Inclusion of other related capitalized costs will encourage the acceleration of

1 infrastructure upgrades by UGI-GD. The cost of tools, equipment, and vehicles are
2 capitalized as overhead as part of the DSIC-eligible projects identified for DSIC-
3 recovery.

4 **Q. Please explain how the costs of tools, power equipment and vehicles are capitalized**
5 **as overhead as part of the DSIC-eligible projects for DSIC recovery.**

6 A. Pursuant to the Company's standard accounting procedure, the costs of tools, equipment,
7 and vehicles (whether existing or newly purchased) will be capitalized as overhead as
8 part of the DSIC-eligible capital project with which they are associated. Specifically, the
9 depreciation expense (and other related costs, *e.g.*, maintenance/license fees/etc.) related
10 to capitalized tools, power equipment and vehicles goes to a clearing account (FERC
11 Account 184). UGI-GD's accounting procedure allocates a pro rata portion of the
12 clearing account to capital and expense (operating and maintenance work) based upon the
13 percentage of payroll going to each category, with such percentage adjusted quarterly.
14 For the costs allocated to capital, the costs are subsequently allocated between repair &
15 betterment projects (which are DSIC-eligible) and new business projects (which are not
16 DSIC-eligible) by multiplying a calculated construction overhead rate by the total spend
17 for the month by project. Any remaining amount would remain in the overhead account
18 for capital to be allocated during the rest of the year, and is cleared at the end of the year.
19 Hence, under UGI-GD's current accounting procedure, if the capital project is a DSIC-
20 eligible project, an allocated portion of the costs of the tools, vehicle and equipment will
21 be capitalized as overhead as part of the DSIC-eligible project.

1 **Q. Please explain UGI-GD's inclusion of costs related to regulator stations and**
2 **regulator station equipment.**

3 A. UGI-GD plans to include qualifying investment placed in service for regulator stations
4 and equipment. The role of regulator stations, and regulator station equipment, in UGI-
5 GD's distribution system is described in the direct testimony of UGI-GD witness Hans
6 Bell. The capitalized costs of regulator stations and equipment are recorded in UGI-GD's
7 FERC Accounts 378 and 379.

8 **Q. Please describe Exhibit No. WJM-2.**

9 A. We have prepared a bill insert that will notify all customers of our DSIC filing. A copy
10 of the bill insert is included with this testimony as Exhibit No. WJM-2. This bill insert is
11 based on the bill insert already in use by UGI-PNG and UGI-CPG. The bill insert will be
12 included in bills to all customers beginning no later than seven days after the date of the
13 filing of this Petition, and continuing through one billing cycle, until all customers have
14 received it. This bill insert is consistent with the requirements in Section 1354(1) and the
15 Commission's Final Implementation Order.

16 **Q. Once approval for the DSIC rate is received, do you plan further communication**
17 **with your customers?**

18 A. Yes. First, upon receipt of the Commission's Order, the Company will notify its
19 customers of the Commission's disposition, pursuant to Section 1354(2) of the statute.
20 Subsequently, consistent with Section 1354(3), the Company will also provide notice to
21 customers of changes that occur due to the quarterly adjustments. The Company has
22 developed bill messages that will identify the level of DSIC changes and their effective

1 dates. These messages will allow customers to monitor the quarterly updates to the
2 Company's DSIC rate.

3 **Q. Has UGI-GD met the requirement established in § 1353(b)(4)?**

4 A. Yes, UGI-GD has met the requirement established in §1353(b)(4). Included as Exhibit
5 No. 3 to the Petition is a certification from Paul J. Szykman, Vice President, Rates and
6 Government Relations, Vice President and General Manager – Electric Utilities,
7 establishing that UGI-GD has filed a base rate case within the last five years. On January
8 19, 2016, UGI-GD filed a base rate proceeding which is currently pending before the
9 Commission at Docket No. R-2015-2518438.

10 **Q. Do you believe that the proposed DSIC is in the best interest of UGI-GD's**
11 **customers?**

12 A. Yes. As explained in the Modified LTIP, UGI-GD is undertaking substantial replacement
13 of its pipeline system, as well as other significant investment in system reliability. This
14 replacement is critical to the continued provision of safe and reliable service. The DSIC is
15 vital to support the Company's efforts to undertake this replacement program.

16 **Q. Does the proposed DSIC tariff contain consumer protections?**

17 A. Yes. The model tariff provided by the Commission included customer safeguards in its
18 structure. These have been adopted by the Company and are reflected in the *pro forma*
19 tariff provided as Exhibit No. 1. The most significant safeguards include: (1) a 5.0% cap
20 on the total amount of distribution revenue that can be collected through the DSIC as
21 determined on an annualized basis, (2) annual reconciliations performed by the Company
22 and reviewed by the Commission, (3) audits conducted by the Commission, (4) customer

1 notice of any changes in the DSIC, and (5) a reset of the DSIC to zero if Company's return
2 in any quarter exceeds the return used to calculate the DSIC.

3 **Q. Does that conclude your direct testimony?**

4 A. Yes it does.

WJM-1

UGI Utilities, Inc. --Gas Division
DSIC Computation
Illustrative DSIC Quarterly Update
Effective January 1,2018

	DSIC =	<u>(DSI x PTRR) + Dep + e</u> PQR			
<u>Line</u>			<u>Annual</u>	<u>Quarterly</u>	<u>Source</u>
1		Distribution System Improvement Costs		\$ 16,510,664	Projected.
2		Less Accumulated Depreciation		<u>\$ (25,000)</u>	Projected.
3	DSI	Net Distribution System Improvement Costs		\$ 16,485,664	Ln 1 + Ln 2
4	PTRR	Annual Pretax Rate of Return	12.00%		Projected.
5		Quarterly Pretax Rate of Return		3.00%	Ln 4 / 4
6	DSI x PTRR	Quarterly Capital Cost Recovery		\$ 494,570	Ln 3 * Ln 5
7		Annual Depreciation Expense	\$ 333,212		Projected.
8	Dep	Quarterly Depreciation Expense		<u>\$ 83,303</u>	Ln 7 / 4
9	(DSI x PTRR) + Dep	Current Period Recoverable Cost Amount		<u>\$ 577,873</u>	Ln 6 + Ln 8
10		Over/(Under) Collection		\$ -	
11		Audit Adjustment		\$ -	
12		Interest Refundable		\$ -	
13		Prior Period "E" Factor Residual		\$ -	
14		Misc. Adjustments Refund/(Recoup)		\$ -	
15		Net "E" Factor Amount		<u>\$ -</u>	
16	e	Quarterly "E" Factor Amount		<u>\$ -</u>	Sum Lines 10 - 15
17	(DSI x PTRR)+Dep+e	Total DSIC Revenue Requirement		<u>\$ 577,873</u>	Ln 9 + Ln 16
18	PQR	Projected Quarterly Revenue		\$ 69,777,237	
19	DSIC	Distribution System Improvement Charge (DSIC)		0.83%	Ln 17 / Ln 18
20		DSIC Effective January 1, 2018		<u>0.83%</u>	

WJM-2

NOTICE OF PROPOSED DISTRIBUTION SYSTEM IMPROVEMENT CHARGE

UGI Utilities Gas Division (UGI-GD) has filed a request with the Pennsylvania Public Utility Commission (PUC) to implement a Distribution System Improvement Charge (DSIC) to recover reasonable costs incurred for UGI-GD to accelerate the improvement and replacement of infrastructure that UGI-GD uses to deliver natural gas to its customers.

A DSIC allows natural gas, electric, water and wastewater companies to accelerate the replacement of aging facilities. DSIC charges reduce the frequency and the associated costs of base rate cases while maintaining a high level of customer protection. DSIC charges are designed to provide customers with improved service quality, greater rate stability, increased safety and lower levels of system losses.

UGI-GD's request is subject to review by the PUC, and the PUC may approve, modify, or reject the request. The PUC will examine the requested DSIC and may delay the implementation of a DSIC until it investigates and/or holds hearings on the request. You may examine the material filed with the PUC, which explains the requested DSIC and the reasons for it. A copy of this material is also kept at UGI-GD's office.

If the PUC approves the DSIC, it must be updated on a quarterly basis to reflect eligible infrastructure that UGI-GD places in service. The DSIC charge is limited to 5 percent of billed distribution revenues.

The proposed effective date for the initial DSIC is January 1, 2017. The actual effective date will depend on when the DSIC is approved by the PUC. The initial DSIC rate will be set at 0%.

Continued on back

There are three ways to challenge a company's request to implement a DSIC:

1.) You may file a formal complaint. If you want a hearing before a judge, you must file a formal complaint. By filing a formal complaint, you assure yourself the opportunity to take part in any hearing about the DSIC request. All complaints should be filed as soon as possible. The PUC may grant all, some, or none of the request without holding a hearing before a judge.

2.) You may send the PUC a letter telling why you object to the requested DSIC. Information in these letters can be helpful when the PUC investigates the DSIC request. Send your letter or request for a formal complaint form to the Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, PA 17105-3265.

3.) You may be a witness at a public input hearing. Public input hearings are held if the PUC opens an investigation of the company's DSIC request and if there are a large number of customers interested in the case. At these hearings, you have the opportunity to present your views in person to the PUC judge hearing the case as well as to the company representatives. All testimony given "under oath" becomes part of the official record. These hearings are held in the company's service area.

For more information, call the PUC at 1-800-692-7380. You may leave your name and address so that you can be notified of any hearings that may be scheduled in this case.



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**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**UGI UTILITIES, INC. – GAS DIVISION
DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)**

UGI STATEMENT NO. 2

**DIRECT TESTIMONY OF
HANS G. BELL**

Dated: March 31, 2016

1 **Q. Please state your name and business address.**

2 **A.** My name is Hans G. Bell. My business address is 2525 N. 12th Street - Suite 360, Reading,
3 Pennsylvania, 19612.

4 **Q. By whom are you employed and in what capacity?**

5 **A.** I am employed by UGI Utilities, Inc. as Vice President of Engineering & Operations
6 Support.

7 **Q. State your educational background and employment experience.**

8 **A.** My education includes a Bachelor's of Science Degree in Civil Engineering from the
9 University of Illinois in Urbana, Illinois and a Master's Degree in Business Administration
10 from Keller Graduate School of Management, Chicago, Illinois. I am a registered
11 Professional Engineer ("PE") in the state of Illinois. Prior to joining UGI Utilities Inc. in
12 February of 2013, I was employed for 17 years by Nicor Gas, later AGL Resources, in
13 Naperville, Illinois. While at Nicor Gas I worked in multiple engineering and operational
14 roles including Chief Engineer, Assistant Vice President of Engineering, and Managing
15 Director of Engineering.

16 **Q. What are your current job responsibilities?**

17 **A.** As Vice President of Engineering & Operations Support, I am UGI Utilities' senior
18 executive accountable for providing technical leadership and strategic direction to all gas
19 utility engineering and technical services functions. I am responsible for establishing long
20 term strategic infrastructure investment plans and developing and managing corresponding
21 annual capital budgets. Under my direction is the engineering staff accountable for
22 engineering design, engineering standards, corrosion control, Distribution Integrity

1 Management (“DIMP”), Transmission Integrity Management (“TIMP”), leak survey,
2 mapping & records, safety, damage prevention, operator qualification, and training.

3 **Q. Have you previously testified before the Pennsylvania Public Utility Commission?**

4 **A.** Yes, I have. I presented testimony on behalf of UGI Penn Natural Gas, Inc. (“UGI-PNG”)
5 and UGI Central Penn Gas, Inc. (“UGI-CPG”) in their DSIC proceedings at Docket Nos. P-
6 2013-2397056 and P-2013-2398835. I am also a witness in the ongoing UGI Utilities, Inc.
7 – Gas Division (“UGI-GD”) base rate proceeding, at Docket No. R-2015-2518438.

8 **Q. What is the purpose of your testimony?**

9 **A.** I will describe the Long Term Infrastructure Improvement Plan (“LTIIIP”) of UGI-GD. I
10 will provide an overview of our accelerated plan and provide a brief explanation of how we
11 prioritize our pipeline replacements. In addition, I will touch on some special
12 considerations on the UGI-GD system that are incorporated into our overall LTIIIP.

13 **Q. Please describe the history of the UGI-GD LTIIIP.**

14 **A.** On December 12, 2013, UGI-GD filed a *Petition for Approval of its Long Term*
15 *Infrastructure Improvement Plan* at Docket No. P-2013-2398833. The Commission
16 approved UGI-GD’s LTIIIP in an order entered on July 31, 2014. On February 29, 2016,
17 UGI-GD filed its *Petition of UGI Utilities, Inc. – Gas Division for Approval of a*
18 *Modification to its Long Term Infrastructure Improvement Plan* (“Modified LTIIIP”) with
19 the Commission, which is also at Docket No. P-2013-2398833. The Modified LTIIIP is
20 currently pending before the Commission, and no action has been taken upon it at this time.

21 **Q. What differences are there between the Commission-approved LTIIIP and the**
22 **Modified LTIIIP?**

23 **A.** The difference between the two versions of the LTIIIP is exclusively related to increased
24 investment in DSIC eligible property. No other meaningful changes were made to the

1 LTIIIP. All categories of eligible property were maintained, the anticipated timeline for
2 replacement of mains is the same, and the geographic area where the replacements will take
3 place is identical. The period identified in the plan continues to be 2014 through 2018.
4 Therefore, in my testimony, I will simply refer to the LTIIIP, and not distinguish between
5 the two versions unless I am specifically discussing the modifications reflected in the
6 February 29 filing.

7 **Q. What does the LTIIIP contain?**

8 A. The LTIIIP provides a guide to the Company's accelerated infrastructure repair,
9 improvement and replacement activities for the five year period from 2014 through 2018.
10 In addition, it also presents information about the Company's longer term infrastructure
11 improvement, repair, and replacement plans. In particular, it includes repair, replacement,
12 and improvement plans for our natural gas distribution and transmission pipelines. The
13 Company began accelerating replacement of its pipelines in 2012, and has committed to
14 replacing all of its cast iron pipelines within 13 years, ending February 2027, and all of its
15 bare steel pipelines within 28 years, ending in September 2041. This represents a dramatic
16 acceleration over historic replacement rates. In the LTIIIP, in addition to pipeline
17 replacements, we have established plans for the repair and replacement of other critical
18 infrastructure used in providing distribution service to our customers. The LTIIIP identifies
19 the areas of the system to be repaired, replaced and improved, the timeframe for doing the
20 work, and the procedures we are implementing to ensure we are working in a cost effective
21 manner and reducing inconvenience to local communities. In addition, we describe how
22 the Company has accelerated its plans for replacing infrastructure, in particular cast iron
23 and bare steel pipelines.

1 **Q. Please describe how the Company will implement its pipeline replacement plans.**

2 A. The Company will target infrastructure replacement, particularly the removal and
3 replacement of all cast iron and bare steel pipelines, and the services associated with these
4 types of pipe. Pipelines are identified and prioritized for upgrade through relative risk
5 ranking, capacity analysis, operating history and overall reliability. This is accomplished
6 using commercially available gas distribution modeling software in conjunction with a
7 team of Subject Matter Experts to supplement the computerized risk algorithms.
8 Infrastructure replacement programs and capital budgets are predicated on the risk analysis.
9 Engineering and operations staff will manage projects to ensure construction quality
10 assurance and maximum effectiveness of resources. Our goal for this program is to
11 efficiently reduce the level of infrastructure risks to ensure safe and reliable service for our
12 customers and the communities we serve.

13 **Q. Please describe how repairs and replacements are prioritized?**

14 A. The Company uses a comprehensive assessment of risk to determine when and where
15 replacements should occur. The assessment considers potential projects from all three UGI
16 Companies, and applies a number of different factors to develop the list of planned projects
17 each year. Main replacement risk evaluation includes factors such as the pipe condition,
18 age, coating, type of ground cover, geographical proximity to structures, and prior leak /
19 break history. Specific projects may be escalated during the year due to changes in risk
20 profile or to enable the most efficient use of Company resources. These evaluations are
21 performed utilizing risk valuation software as well as Subject Matter Experts, in order to
22 ensure that prioritization optimizes both risk identification and efficiency. The Company
23 has provided a list of its currently identified projects as part of its Annual Asset

1 Optimization Plan, which was filed with the Commission on February 29, 2016 at Docket
2 No. M-2016-2531528.

3 **Q. How will the plans, as described in the LTIP, enhance the safety and reliability of**
4 **service to customers?**

5 A. We are utilizing a risk-based prioritization methodology to identify and schedule pipeline
6 replacements. Based upon the prioritized results, we are accelerating the replacement of
7 those highest risk assets in order to maximize the LTIP's overall effectiveness in reduction
8 of risks. In this manner, customers will realize the maximum benefits in terms of system
9 integrity and reliability. Over a long term horizon this risk based approach will ensure the
10 ongoing integrity and reliability of our system.

11 **Q. Please describe the planned replacements incorporated into the LTIP aside from**
12 **pipeline replacements.**

13 A. Consistent with Section 1351(2), the Company has identified a wide variety of planned
14 repairs and replacements to DSIC eligible property that impact the safe and efficient
15 operation of the distribution system. These assets include meters, gas service lines,
16 regulator stations, and other equipment associated with system reliability. Many of these
17 items will be replaced in conjunction with the Company's main replacement activities,
18 which will allow for efficient use of resources and will reduce the impact on customers and
19 local communities.

20 **Q. What are regulator stations?**

21 A. The Company's system currently includes City Gate and District Regulator Stations, which
22 are facilities which reduce system pressures as gas is distributed throughout the piping
23 network. City Gate Stations are generally located at the point of custody transfer between

1 the interstate pipelines and distribution systems, whereas District Regulator Stations are
2 located within distribution systems. Regulator stations must be periodically updated or
3 replaced as components such as piping and mechanical equipment age and wear or become
4 obsolete. The Company has more than 400 regulator stations.

5 **Q. What DSIC eligible work must be done on regulator stations?**

6 A. Regulating facilities may be replaced in whole or part depending upon the project
7 objectives. Partial replacements could encompass equipment including but not limited to
8 regulators, valves, heaters, metering, Supervisory Control and Data Acquisition
9 (“SCADA”), and odorization. Some facilities will be eliminated through main replacement
10 programs as low pressure systems are eliminated or where systems are otherwise
11 consolidated. All of these repairs and replacements are necessary in order to ensure that
12 the Company’s distribution system operates safely and provides reliable service.

13 **Q. The LTIP also includes costs associated with other related capital costs. Please**
14 **describe these costs.**

15 A. Our accelerated pipeline replacement program may require the purchase of additional
16 equipment, tools, vehicles, corrosion control equipment, and supporting information
17 technology investments. We believe it is appropriate to include the costs of these items in
18 our DSIC recovery as “other related capitalized costs” under § 1351(2)(x) when these items
19 are used for DSIC eligible projects.

20 **Q. The Company has proposed to recover certain costs associated with vehicles, tools,**
21 **and power equipment. Please describe this cost category.**

22 A. The replacement of DSIC eligible property may result in additional related costs incurred
23 that are essential and necessary in order to efficiently undertake specific accelerated capital

1 improvement projects. Examples include, but are not limited to, tools, power equipment,
2 fleet, and corrosion control technology investments. Inclusion of these items in the DSIC
3 will allow the Company to accelerate infrastructure upgrades by ensuring that the Company
4 has the necessary equipment and technology to complete DSIC-eligible projects. The
5 accounting treatment used on these other capitalized costs is described in the testimony of
6 UGI-GD witness William McAllister.

7 **Q. Does the Company's LTIP currently address any other related capitalized costs**
8 **associated with electronic systems or software?**

9 A. No, it does not.

10 **Q. Should electronic systems and software be included in the LTIP?**

11 A. Yes, UGI-GD believes that this is an appropriate category of costs associated with the
12 DSIC. Much like with tools, equipment, and vehicles, the inclusion in the DSIC of
13 electronic systems and software associated with the Company's infrastructure repair and
14 replacement program will allow the Company to accelerate infrastructure upgrades. The
15 Company anticipates that in the future, it may need electronic systems and software which
16 are required in order to ensure the safety of its distribution system and facilitate the repair
17 and replacement of its distribution infrastructure. Therefore, consistent with the settlement
18 reached in the DSIC proceedings for UGI-PNG and UGI-CPG, UGI-GD believes that
19 electronic systems and software may be included in the DSIC at some point in the future.

20 **Q. You noted that UGI-GD filed a Modified LTIP reflecting increased investment in**
21 **DSIC eligible property. What areas are causing the increased investment?**

22 A. The projects driving the proposed increase in spending associated with the UGI-GD LTIP
23 are increased investments in three primary categories: system reliability improvements,

1 service replacements, and mandated relocations of utility facilities. Each of these
2 categories was previously identified in the original LTIP, but for operational and
3 legislative reasons, UGI-GD has found it necessary to accelerate the investment associated
4 with each of these categories. For instance, increasing system reliability improvements to
5 address peak day system reliability must be a priority as evidenced by the challenges
6 experienced in the winters of 2013-2014 and 2014-2015. Due to temperatures which
7 approached historic record lows, UGI-GD experienced pressures well below design criteria
8 at multiple distribution system endpoints. The Company is now focusing additional
9 resources on addressing this concern.

10 **Q. What has caused increased investment in service lines?**

11 A. After UGI-GD filed its LTIP, the Commission issued a Final Order in Docket No. L-2009-
12 2107155 on May 23, 2014 amending 52 Pa. Code § 59.18. UGI-GD had noted in its
13 LTIP that the Commission's Final Order at this docket could impact its repair and
14 replacement plans. The amendments, which became effective September 13, 2014, require
15 that all regulators on service lines operating over 10 psig,¹ and gas meters under certain
16 conditions, must be located outside. Utilities have 20 years from the effective date of the
17 amendments to address the relocations. In order to comply with the regulatory mandate to
18 move all medium pressure regulators from inside to outside by September 13, 2034, UGI-
19 GD will continue to increase investment in service replacements. Acceleration of
20 investment in service replacements is also driven by the replacement of bare steel and other
21 non-contemporary service line materials, both concurrently with cast iron and bare steel
22 main replacements, and on an incidental basis.

¹ Psig stands for pounds per square inch gauge.

1 **Q. You also mentioned mandatory relocations. Why has this category of replacement**
2 **increased?**

3 A. Act 89 of 2013 will provide for an additional \$2.3 to \$2.4 billion of transportation
4 investment annually by 2019, including \$1.3 billion for state roads and bridges and \$237
5 million for local roads and bridges.² Given the historically unprecedented increase in
6 Pennsylvania Department of Transportation (“PennDOT”) highway improvement project
7 expenditures, UGI-GD expects a corresponding increase in the number of mandated utility
8 facility relocations, particularly related to bridge construction and replacements of non-
9 contemporary gas infrastructure on and ahead of paving basis.

10 **Q. Does this conclude your direct testimony?**

11 A. Yes.

² For a summary of Act 89 of 2013, *see* <http://www.dot.state.pa.us/public/Bureaus/PublicTransportation/GeneralInformation/Act%2089%20of%202013.pdf>