BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Docket No. R-2015-2518438

UGI Utilities, Inc. – Gas Division

Statement No. 9-R

[PUBLIC VERSION]

Rebuttal Testimony of
Hans G. Bell

Topics Addressed: **Manufactured Gas Plants**
Pipeline Replacement Costs Pipeline Replacement

Dated: May 10, 2016

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Hans G. Bell. My business address is 2525 N. 12th Street, Reading, Pennsylvania, 19612.

Q. Did you previously submit direct testimony in this proceeding on behalf of UGI Utilities, Inc. – Gas Division ("UGI Gas" or the "Company")?

A. Yes. I submitted my direct testimony, UGI Gas Statement No. 9, on January 19, 2016.

Q. What is the purpose of your rebuttal testimony?

A. My testimony responds to certain portions of the following direct testimony submitted by other parties: the direct testimony of Mr. David J. Effron, Office of Consumer Advocate ("OCA") Statement No. 1; the direct testimony of Mr. James S. Garren, OCA Statement No. 5; the direct testimony of Ms. Lisa A Gumby, Bureau of Investigation & Enforcement ("I&E") Statement No. 2; the direct testimony of Mr. Sunil R. Patel, I&E Statement No. 7; and the direct testimony of Mr. Robert Horensky, I&E Statement No. 8.

Q. Please summarize your rebuttal testimony.

A. My rebuttal testimony responds to three categories of direct testimony submitted by the intervenors.

First, I address UGI Gas's updated plan to spend at least $2.5 million per year, as of the end of the fully projected future test year ending September 30,

2017 ("FPFTY"), on environmental remediation activities related to remediating manufactured gas plant ("MGP") sites. See UGI Gas Statement No. 9, page 15, lines 13-18. As a part of that discussion, I address the adjustments to the claimed MGP expense recommended by Mr. Effron, see OCA Statement No. 1, page 22, lines 9-10, and Ms. Gumby. SeeI&E Statement No. 2, page 29, lines 1-3.

Second, I address Mr. Patel's testimony (I&E Statement No. 7) and Mr. Horensky's testimony (I&E Statement No. 8) regarding UGI Gas's pipeline replacement costs and UGI Gas's overall system-risk reduction activities under its Distribution Integrity Management Program ("DIMP"). Specifically, I address: why the replacement cost per mile figures relied upon by Mr. Patel, see I&E Statement No. 7, page 5, lines 7-10, are actually indicative of industry-wide cost increases, by comparing UGI Gas's replacement cost per mile from 2013-2014 to the cost of other Pennsylvania natural gas distribution companies ("NGDCs"); why UGI Gas has faced significant increases in "OTHER" and "RESTORATION" costs related to its replacement of at risk pipe despite its ongoing efforts to reduce those costs; and how UGI Gas's risk prioritization practices, and substantial replacement and other risk-reduction activities demonstrate that UGI Gas is, in fact, reducing its overall system risk and in compliance with DIMP regulations.

Finally, I discuss the effects of UGI Gas's pipeline replacement program on the remaining life calculations for depreciation purposes of UGI Gas's cast

iron and bare steel pipe, as discussed in further detail in the rebuttal testimony of John F. Wiedmayer, UGI Gas Statement No. 5-R.

Environmental Remediation Costs

Q. Please summarize the portion of Mr. Effron's testimony that you are addressing.

A. In OCA Statement No. 1, page 21, line 22 through page 22, line 5, Mr. Effron states that the Company's accrual of environmental remediation costs related to MGP site remediation is not an actual cost incurred by the Company and that the Company has not demonstrated that these costs are recoverable from its customers. Mr. Effron further recommends that all environmental remediation costs be eliminated from pro forma test year operation and maintenance expenses. See OCA Statement No. 1, page 22, lines 9-10.

Q. What are MGPs, and what role did they historically play in UGI Gas's distribution system?

A. As described in my direct testimony, MGPs historically produced manufactured gas from coal. See UGI Gas Statement No. 9, page 14, lines 21-24. UGI Gas historically used its MGPs to produce gas for distribution to its customers, as an integrated part of its distribution system necessary to provide adequate and reliable service.

Q. Does UGI Gas still utilize MGPs as an integrated part of its distribution system necessary to provide adequate and reliable service to its customers?

A. No. In the past, use of MGPs as a source of gas supply was phased out as more economical natural gas supplies became available in the UGI Gas service territory. For decades, UGI Gas has been working to evaluate and remediate various MGP sites to address any environmental conditions that resulted from their historical use as an integrated part of the Company's distribution system. When this work has been performed in the past, the associated costs have been considered a component of UGI Gas's "cost of removal" and, as Ms. Kelly describes in her direct testimony, recovered from customers through a five-year expense amortization. See UGI Gas Statement No. 2, page 28, lines 13-18. To complete its remediation of these MGP sites, UGI Gas will pursue a course of action similar to that of its subsidiaries, UGI Central Penn Gas and UGI Penn Natural Gas. See UGI Gas Statement No. 9, page 16, line 22 through page 17, line 12. As disclosed in discovery, UGI Gas commenced negotiations with the Pennsylvania Department of Environmental Protection ("PA DEP") to voluntarily enter into a Consent Order and Agreement ("COA") to address necessary remediation activities at UGI Gas's former MGP sites.[1]

Q. Please discuss whether has UGI Gas made any progress toward negotiating and executing a COA with the PA DEP?

[1] See CONFIDENTIAL UGI Gas Exhibit No. HGB-3 (Company Supplemental Response OCA-VI-37).

A. Since filing its claim on January 19, 2016, UGI Gas made substantial progress toward executing a COA with the PA DEP. Concurrent with this rate proceeding, various technical documents that would be attached to the agreement were being finalized. UGI Gas's substantial efforts have culminated in a final, recently executed COA with PA DEP that addresses necessary remediation activities at UGI Gas's former MGP sites. As disclosed in discovery, the COA covers 26 former MGP sites, at an annual remediation cost of approximately $2.5 million over a 15-year term, or approximately $37.5 million over the term of the agreement.[2] UGI Gas presented the finalized COA to PA DEP on May 5, 2016, which was then approved and executed by PA DEP on MAY 6, 2016. The executed COA has an effective date of October 1, 2016.

Q. What is your response to Mr. Effron's statement that the Company's environmental remediation costs are not actual costs that are properly recoverable from its customers?

A. Because MGPs historically functioned as an integrated part of the UGI Gas distribution system, the environmental costs associated with the obligatory remediation of MGP sites are analogous to environmental costs associated with removing and replacing distribution mains or any other plant related to the Company's provision of adequate and reliable service. UGI Gas and other Pennsylvania utilities have been allowed to recover such costs through their rates. Furthermore, the progress made by UGI Gas toward negotiating and executing a COA with the PA DEP demonstrates that UGI Gas will actually incur

[2] See Footnote 1, *supra.*

these costs in the FPFTY. UGI Gas's efforts to negotiate the terms of its remediation plans with the PA DEP also demonstrate that its claimed remediated costs are reasonable. Therefore, the costs associated with remediating MGP sites constitute an actual, prudently incurred cost pertaining to UGI Gas's gas utility business that is properly recoverable from its customers.

Q. Please summarize the portion of Ms. Gumby's testimony that you are addressing.

A. In I&E Statement No. 2, page 28, lines 16-17, Ms. Gumby states that UGI Gas's claim for $3,000,000 in expenses for environmental remediation expenses for MGP sites is excessive. Ms. Gumby recommends an allowance of $409,425 per year, which represents a downward adjustment of $2,590,575. See I&E Statement No. 2, page 29, lines 1-3. Ms. Gumby bases her recommendation on a five-year average of UGI Gas's historic MGP remediation expenses. See I&E Statement No. 2, page 29, lines 6-13.

Q. What is your response to Ms. Gumby's statement that UGI Gas's claim for environmental remediation costs related to MGP sites is excessive?

A. Ms. Gumby's statement ignores evidence of actual MGP site remediation expenditures by UGI Gas's subsidiaries, UGI Central Penn Gas and UGI Penn Natural Gas. See UGI Gas Statement No. 9, page 16, line 22 through page 17, line 12. While UGI Gas has not yet had actual experience under the COA with the PA DEP, the Company's claimed MGP remediation costs are equal to the

minimum annual amounts required to be spent under the in-progress COA. Therefore, Ms. Gumby's downward adjustment to MGP environmental remediation costs is unwarranted. Notwithstanding, as our original claim was $3.0 million per year related to the COA, and the in-progress COA requires a minimum $2.5 million per year to be spent, UGI Gas has reduced its expense claim by $0.5 million to $2.5 million as reflected in the rebuttal testimony of Ms. Kelly, UGI Gas Statement No. 2-R.

Gas Safety – Pipeline Replacement Costs

Q. Please summarize the portion of Mr. Patel's testimony related to pipeline replacement costs that you are addressing.

A. In I&E Statement No. 7, page 5, lines 6-10, Mr. Patel states that UGI Gas's cost per mile for pipeline replacement has sharply increased from 2011-2015. Mr. Patel concludes that this increase is primarily attributable to substantial increases in "OTHER" and "RESTORATION" costs associated with UGI Gas's pipeline replacement projects. See I&E Statement No. 7, page 6, lines 6-7 and 19-21. Finally, Mr. Patel recommends that UGI Gas should reduce "OTHER" and "RESTORATION" costs, and that UGI Gas should provide the Gas Safety Division a plan discussing how the Company plans to achieve such reductions within 60 days of the final order in this proceeding. See I&E Statement No. 7, page 6, lines 3-6.

Q. Turning first to Mr. Patel's statement that UGI Gas's cost per mile for replacement has sharply increased from 2011-2015, has an analysis of

replacement cost per mile of all Pennsylvania NGDCs been conducted in this proceeding?

A. Yes. As a part of my rebuttal testimony I prepared UGI Gas Exhibit HGB-4, which sets forth a comparison of the replacement cost per mile of ten Pennsylvania NGDCs, including UGI Gas, from 2013-2014. To develop this comparison, I relied on the information provided in response to Interrogatory UGI-I&E-II-6, which is provided as UGI Gas Exhibit HGB-5.

Q. Please summarize I&E's response to Interrogatory UGI-I&E-II-6.

A. I&E's response to UGI-I&E-II-6 provides a comparison of statewide pipeline replacement costs and miles replaced among a group of ten Pennsylvania NGDCs, including UGI Gas, for years 2013 and 2014. An average cost per replacement mile is computed for each NGDC for each year.

Q. How does the UGI Gas average replacement cost for 2013-2014 compare other NGDCs?

A. In 2013 the average replacement cost for all NGDCs was $786,950 per mile while the UGI Gas average replacement cost was $530,208 per mile, or 33% below the NCDC statewide average. In 2013, five NGDCs had replacement costs higher than UGI Gas and three NGDSs had replacement costs over $1 million per mile. In 2014, the average replacement cost for all NGDCs was $955,374 per mile while the UGI Gas average replacement cost was $499,155, or 48% below the NGDC statewide average. In 2014, six NGDCs had

replacement costs higher than UGI Gas and five NGDCs had replacement costs over $1 million per mile.

Q. How does the UGI Gas average replacement cost for 2015 compare to other NGDCs?

A. In response to Interrogatory I&E-GS-17, which is provided as UGI Gas Exhibit HGB-6, UGI Gas reported an average replacement cost of $1,016,876 for 2015. While 2015 data has not yet been compiled for other NGDCs, the 2015 UGI Gas average replacement cost is only slightly above the group average for the prior year. See UGI Gas Exhibit No. HGB-. By way of this comparison, it is clear that the UGI Gas replacement costs remain well within the range of the average costs experienced by other NGDCs.

Q. Taking into consideration the statewide replacement cost comparison you provide in UGI Gas Exhibit HGB-4, how do you respond to Mr. Patel's testimony?

A. Although Mr. Patel is correct in stating that UGI Gas's replacement cost per mile has increased from 2011-2015, the cost remains well within the mid-range of replacement costs experienced by other NGDCs. While UGI Gas's replacement costs have increased, so have the replacement costs among other NGDCs.

Q. Turning to Mr. Patel's conclusion that "OTHER" and "RESTORATION" costs significantly drove the increase in UGI Gas's replacement cost per mile, what are "OTHER" costs?

A. "OTHER" costs, as referenced in I&E Exhibit No. 7, Schedule 2, page 1, which incorporates the information I provided in Attachment I&E-GS-17, cover a broad range of costs including but not limited to equipment rental, traffic control, permits, rights of way, inspection fees, and environmental costs, among others.

Q. Referencing the same exhibit, what are "RESTORATION" costs?

A. Restoration costs are incurred after construction to replace paving and landscaping damaged as a result of a project. Street pavement patching, sidewalk replacement, and parkway landscaping are examples of restoration.

Q. How do you respond to Mr. Patel's discussion of UGI Gas's other and restoration costs, and subsequent recommendation that UGI Gas provide a the Gas Safety Division a report on how it plans to reduce those costs?

A. Costs incurred in "OTHER" and "RESTORATION" categories are necessary to secure local governmental approvals to conduct infrastructure replacement projects. The increases in these costs categories are not due to lack of spending controls at UGI Gas. Rather, the increases are driven by permitting fees and restoration requirements imposed by municipal governments on the pipeline replacement activities conducted by UGI Gas. In many instances, UGI Gas has challenged the lawfulness of, what UGI Gas has characterized as, excessive

municipal fees, and has engaged in ongoing efforts to reduce these costs. UGI Gas has been supported by the PUC in litigation against one such municipality. However, until such time that the pending challenges are resolved, it is appropriate and necessary for UGI Gas to continue to budget and pay all permitting and restoration fees. These business costs are required to continue UGI Gas's infrastructure replacement program under both its DIMP and the Long Term Infrastructure Improvement Plan ("LTIIP").

Gas Safety – DIMP Compliance

Q. Please summarize the portion of Mr. Patel's testimony related to UGI Gas's DIMP that you are addressing.

A. In I&E Statement No. 7, page 2 through page 3, line 2, Mr. Patel discusses the DIMP regulations found at 49 C.F.R. §§ 192.1001-192.1015, and correctly states that UGI Gas is required to develop a DIMP and comply with these regulations. Mr. Patel further subsequently states, "UGI has determined in its DIMP plan that in order to mitigate risk association with corrosion; UGI must replace its risky pipe. UGI's risky pipe is cast iron and unprotected bare steel. UGI's primary method for reducing overall risk to the UGI distribution system is pipeline replacement." See I&E Statement, No. 7, page 3, lines 11-15.

Q. Is Mr. Patel correct that the DIMP regulations require pipeline operators to replace risky pipe in order to reduce overall system risk?

A. Mr. Patel is correct that under DIMP regulations pipeline operators must pursue ongoing efforts to reduce overall system risk. However, the regulations do not mandate replacement as the sole means of risk reduction. In I&E Statement No. 7, page 3, lines 11-13, Mr. Patel states that UGI Gas must replace its risky pipe. But pipe replacement is only one method by which a pipeline operator may reduce overall system risk under the DIMP regulations. Per 49 C.F.R. § 192.1007(d) pipeline operators must "[d]etermine and implement *measures* to reduce risks from the failure of its gas distribution pipeline." Recognizing the system-specific characteristics and risks that each pipeline operator must consider, the regulations afford an operator the discretion to determine and implement the specific additional and accelerated risk-reduction measures.

Q. Has UGI Gas implemented additional and accelerated measures to address distribution integrity risks?

A. Yes. In addition to its cast iron and bare steel replacement program, UGI Gas has also implemented a robust leak survey program that includes asset surveys in excess of code requirements. Additionally, UGI Gas has implemented various risk mitigation programs to address certain plastic distribution assets. UGI Gas also has implemented numerous preventative measures to reduce the risk associated with excavation damages, which Mr. Patel recognizes as a leading cause of gas distribution incidents. See I&E Statement No. 7, page 2, lines 5-7. Consistent with the DIMP regulations, UGI Gas is committed to taking actions

that reduce overall system risk that include both at risk pipe replacement, as well as numerous other non-replacement activities.

Q. What is your response to Mr. Patel's testimony regarding UGI Gas's DIMP, and what actions UGI Gas must take in order to mitigate overall risk on its distribution system?

A. Mr. Patel's description of UGI Gas's DIMP plan is incomplete because it does not recognize that operators may implement non-replacement based measures to reduce distribution system risks. While UGI Gas continues the replacement of cast iron and bare steel mains per its long term infrastructure replacement program, other non-replacement based measures are appropriately incorporated into the UGI Gas DIMP plan. These additional and accelerated non-replacement based measures may be scaled as appropriate to address interim changes in risk while the longer term infrastructure replacement program is executed.

Q. Please summarize the portion of Mr. Horensky's testimony related to UGI Gas's DIMP that you are addressing.

A. In I&E Statement No. 8, page 9, lines 7-9, Mr. Horensky states that UGI Gas is out of compliance with its DIMP because asset risk associated with bare steel mains is increasing. Mr. Horensky contends that UGI misrepresents the risk trend for the steel asset account and supports this conclusion by analyzing system risk associated with steel mains over an abbreviated 3-year period. See I&E Statement No. 8, page 7, lines 2-4.

Q. Has an analysis of UGI Gas's overall system-risk scores been conducted as a part of this proceeding?

A. Yes. As a part of my rebuttal testimony, I prepared CONFIDENTIAL UGI Gas Exhibit HGB-7, which sets forth UGI Gas's overall system-risk scores from 2010 to 2015. I then used these scores to calculate the overall total system-risk reduction from 2010 to 2015. To develop this analysis, I relied on the information provided in I&E Exhibit No. 8, Schedule 1.

Q. What does CONFIDENTIAL UGI Gas Exhibit HGB-7 show?

A. UGI Gas Exhibit No. HGB-7 shows annual system-risk scores from 2010 to 2015 for cast iron mains, steel mains, and an overall combined score for cast iron and steel mains. The overall annual system-risk score is based on the sum of annual system-risk scores for cast iron and steel mains on the UGI Gas system set forth in I&E Exhibit No. 8.

Q. Has there been a material change in the risk of steel mains since the baseline period?

A. Since the 2010 baseline, steel main risk has decreased by approximately 6%. As noted by Mr. Horensky, between 2013 and 2014 steel risk increased by 2.3%, and between 2014 and 2015 steel risk increased by 1.0%. Despite the nominal risk increases over the abbreviated period selected by Mr. Horensky, the overall system risk associated with steel mains remains well below the baseline. Single

digit percentage changes in year-over-year risk index scores are certainly not material, whereas longer term trends in risk are meaningful. Mr. Horensky's rationale is inconsistent by dismissing the notable risk decreases between 2010 and 2013 and only highlighting the comparatively minor increases from 2013 to 2015. Rather than selecting discreet intervals, the overall longer-term trend should be the basis for evaluation of material changes in risk.

Q. How has the total combined system risk changed since the baseline period?

A. Based on an analysis of overall annual system risk from 2010 to 2015 (*i.e.*, the difference between the base year 2010 overall risk score and the 2015 overall risk score, divided by the base year 2010 overall risk score), I conclude that UGI Gas has reduced its overall system-risk score from 2010 to 2015 by 13.1 percent.[3]

Q. Why are you evaluating total system-risk scores on an overall basis that combines the total system-risk scores for cast iron and steel mains, rather than evaluating the total system-risk scores for cast iron and steel mains separately?

[3] **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL] *See* CONFIDENTIAL UGI Gas Exhibit No. HGB-7.

A. DIMP regulations require a pipeline operator to evaluate its total system risk on an **overall, system-wide basis**. Evaluating either the total system-risk score reduction for cast iron assets or the total system-risk score for steel assets in isolation does not provide an adequate basis for evaluating a pipeline operators overall, system-wide risk. In this regard, Mr. Horensky's focus on risk trends for only UGI Gas's steel mains, see I&E Statement No. 8, page 7, lines 2-8, is too narrow. My evaluation, however, comports with DIMP regulations, and provides insight into the effects of UGI Gas's risk-reduction strategies on an overall, system-wide basis because it evaluates the change in total system-risk scores from 2010 to 2015 on an overall basis (*i.e.*, a cast iron and steel mains combined risk score).

Q. Based on the overall total system-risk score analysis you conducted in CONFIDENTIAL UGI Gas Exhibit HGB-7, what has been the effect of UGI Gas's replacement of cast iron and bare steel mains?

A. UGI Gas's aggressive replacement of cast iron pipe, which UGI Gas has identified as its primary distribution integrity risk, has substantially reduced total system risk associated with this asset type. Although Mr. Horensky is correct that UGI Gas has experienced a slight increase in system risk associated with steel pipe from 2013 to 2015, see I&E Statement No. 8, page 7, lines 7-8, UGI Gas's aggressive replacement of cast iron pipe during that same period has more than offset this slight increase. See CONFIDENTIAL UGI Gas Exhibit HGB-7. Furthermore, as I previously mentioned, the result of UGI Gas's pipeline

replacement strategies has been a 13.1 percent reduction in its overall total system-risk score from 2010 to 2015.

Q. Did Mr. Horensky examine any other aspects of UGI Gas's risk reduction program, other than pipeline replacement activities?

A. Similar to Mr. Patel, Mr. Horensky improperly focuses solely on one risk reduction method under DIMP: pipeline replacement. As I stated above, the DIMP regulations require pipeline operators to identify and implement risk reduction measures actions that may include, but are certainly not limited to, pipe replacement. While Mr. Horensky concedes that DIMP regulations require pipelines to "Evaluate and Rank Risks", see I&E Statement No. 8, page 2, line 3, he did not consider UGI Gas's evaluation and ranking of risk in his critique of the bare steel main replacement program and schedule. Under its DIMP, UGI Gas identified its cast iron mains as its primary distribution integrity risk, representing a higher priority than bare steel mains. Thus, UGI Gas has prioritized the replacement of cast iron mains, and has been aggressively replacing those mains, while it steadily replaces bare steel mains. Once UGI Gas has eliminated cast iron mains from its system, the Company will then increase the resources assigned to the replacement of bare steel pipe.

LTIIP Effects on Remaining Lives of Cast Iron and Bare Steel Pipe

Q. Please summarize the portion of Mr. Garren's testimony that you are addressing.

A. In OCA Statement No. 5, Exhibit No. JSG-3, page 29, Mr. Garren recommends the use of a 44.8-year average remaining life for FERC Account 376.20 cast iron mains on the UGI Gas system. In OCA Statement No. 5, Exhibit No. JSG-3, page 20, Mr. Garren further recommends a 53.55-year average remaining life for FERC Account 376.1 steel mains on the UGI Gas system.

Q. What is your response to Mr. Garren's recommendation?

A. As more fully discussed in the rebuttal testimony of John F. Wiedmayer, UGI Gas Statement No. 5-R, Mr. Garren's recommendation fails to take into account UGI Gas's pipeline replacement activities. Through the UGI Gas LTIIP, cast iron mains will be completely replaced by 2027 and bare steel mains will be replaced by 2041. On this basis, the remaining cast iron will decrease at a linear rate over the remaining 11-year replacement period. The remaining bare steel will also decrease on a linear basis through 2027. After 2027, coinciding with the completion of cast iron replacement, the rate of bare steel replacement will decrease linearly at a steeper rate, as increasing resources are directed towards bare steel replacement. Therefore, as his recommendation takes these replacements rates into account, the remaining life for these mains developed by Mr. Wiedmayer is more accurate.

Q. Are there any other ways in which UGI Gas's replacement programs would affect Mr. Garren's depreciation analysis?

A. In conjunction with the cast iron and bare steel replacement program, associated bare steel service lines will be replaced. Additionally, inside meters and regulators will be replaced with new outside facilities. Adjacent connected mains may also be replaced, such as segments of coated steel or pre-1990s plastic located within larger cast iron or bare steel systems. Finally, as cast iron and bare steel low pressure systems are replaced with new medium pressure systems, the existing low-pressure district regulator stations will be replaced. Collectively, the replacement of cast iron and bare steel mains affects a larger group of assets and will have the result of reducing the expected remaining service life of these related facilities.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

UGI Gas Exhibit HGB-3

CONFIDENTIAL

UGI Gas Exhibit HGB-4

Company	2013 Actual	2014 Actual	2013 Miles of Main Replaced	2014 Miles of Main Replaced	2013 Cost Per Mile[1,2]	2014 Cost Per Mile[1,2]
A	$ 141,613,000	$ 148,297,000	86	78	**$ 1,651,849**	**$ 1,892,750**
B	$ 14,510,000	$ 27,700,000	28	26	$ 514,539	**$ 1,053,232**
C	$ 7,837,137	$ 7,558,800	37	22	$ 211,815	$ 343,582
D	$ 39,949,000	$ 35,908,000	44	23	$ 901,783	**$ 1,574,912**
E	$ 29,763,396	$ 38,436,010	20	29	**$ 1,464,734**	**$ 1,314,052**
UGI	$ 24,919,784	$ 25,706,466	47	52	$ 530,208	$ 499,155
F	$ 5,800,000	$ 14,909,318	8	21	$ 725,000	$ 696,697
G	$ 3,567,916	$ 5,256,823	11	13	$ 324,356	$ 420,546
H	$ 5,200,000	$ 9,900,000	22	29	$ 236,364	$ 336,735
I	$ 22,774,000	$ 21,900,000	17	15	**$ 1,308,851**	**$ 1,422,078**

All Operators Average Cost / Mile 2013	**$ 786,950**
UGI Variance to 2013 Avg. Cost	**-33%**
All Operators Average Cost / Mile 2014	**$ 955,374**
UGI Variance to 2014 Avg. Cost	**-48%**
All Operators Increase in Average Cost 2013-2014	**21%**
Number of Operators with 2013 avg. cost / mile >$1M	**3**
Number of Operators with 2014 avg. cost / mile >$1M	**5**
UGI Average Cost per mile 2015	**$ 1,016,876**

Notes:

1. Average cost per mile per are restated per response to data request UGI-I&E-II-6. Differences in computed costs are assumed to be attributable to rounding in miles of main replaced.

2. UGI figures shown with underscore, operators with avg. cost in excess of $1M shown in bold.

UGI Gas Exhibit HGB-5

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v.
UGI UTILITIES, INC. – GAS DIVISION
Docket No. R-2015-2518438

Responses of the Bureau of Investigation and Enforcement to UGI Utilities, Inc. – Gas Division Set II
Witness: Sunil R. Petal

UGI-I&E-II-6 Please reference I&E Exhibit No. 7, Page 2 (Gas Safety Form Letter FL-1-15). Provide all cost comparisons, analyses, studies, or reports comparing or contrasting NGDCs replacement costs in response to item 17. Provide the full basis for any computations. Provide all cost category break-downs for each operator.

Response: PUC Gas Safety collects replacement costs from the FL-1-15 to compare budged/actual replacement costs, miles of main replaced, and cost per mile.

2013-2104 Statewide Pipeline Replacement Costs

Company	2013 Actual	2014 Actual	2013 Budget	2014 Budget	2013 Miles of Main Replaced	2014 Miles of Main Replaced	2013 Cost Per Mile	2014 Cost Per Mile
A	$141,613,000	$148,297,000	$141,000,000	$145,016,000	86	78	$1,651,849	$1,892,750
B	$14,510,000	$27,700,000	$9,820,000	$20,200,000	28	26	$514,539	$1,053,232
C	$7,837,137	$7,558,800	$6,490,000	$8,440,000	37	22	$211,815	$343,582
D	$39,949,000	$35,908,000	$38,510,000	$40,693,000	44	23	$901,783	$1,574,912
E	$29,763,396	$38,436,010	$28,776,000	$43,956,000	20	29	$1,464,734	$1,314,052
UGI	$24,919,784	$25,706,466	$23,553,422	$23,165,850	47	52	$530,208	$499,155
F	$5,800,000	$14,909,318	$5,890,735	$5,438,000	8	21	$725,000	$696,697
G	$3,567,916	$5,256,823	$3,487,819	$4,697,200	11	13	$324,356	$420,546
H	$5,200,000	$9,900,000	$6,300,000	$7,800,000	22	29	$236,364	$336,735
I	$22,774,000	$21,900,000	$22,774,000	$19,400,000	17	15	$1,308,851	$1,422,078

VERIFICATION

I, Sunil Patel, hereby state that the facts set forth in the foregoing document are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at any hearing. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. §4904 (relating to unsworn falsification to authorities).

25 Apr 16
Date

Sunil Patel

UGI Gas Exhibit HGB-6

UGI Utilities, Inc. - Gas Division
Docket No. R-2015-2518438
2016 Base Rate Case
Responses to I&E (GS-1 thru GS-25)
Delivered on March 3, 2016

GS-17

Request:

Reference Direct Testimony of Hans G. Bell Statement No. 9, page 6, line 5-6. In reference to Capital History stated in HGB-2, provide a detailed schedule for each of the last 5 calendar year showing the total cost of pipeline replacement on a per mile basis including the following: Each component of the total cost showing (i.e., pipeline cost, labor, paving) and all supporting documents that were utilized to determine the total cost per mile.

Response:

Please refer to Attachment I&E-GS-17.

Prepared by or under the supervision of: Hans G. Bell

YEAR	CONTRACTOR COST	MATERIALS	OTHER	RESTORATION	UGI L,E,&O[1]	Total[2]	Miles Replaced[3]	Average Cost Per Mile
2011	$ 6,692,214	$ 1,718,077	$ 2,432,417	$ 2,040,169	$ 1,568,066	$ 14,450,942	33.9	$ 426,281
2012	$ 8,144,697	$ 2,241,982	$ 2,414,702	$ 2,406,579	$ 1,698,516	$ 16,906,477	24.0	$ 704,437
2013	$ 14,072,084	$ 2,845,362	$ 4,741,629	$ 3,671,893	$ 2,418,395	$ 27,749,363	47.1	$ 589,158
2014	$ 12,950,207	$ 3,201,667	$ 6,066,441	$ 4,404,690	$ 2,099,727	$ 28,722,732	51.5	$ 557,723
2015[4]	$ 11,885,400	$ 2,893,558	$ 8,059,488	$ 6,321,755	$ 1,752,816	$ 30,913,017	30.4	$ 1,016,876

Notes:

1. UGI L,E,&O includes internal UGI labor, equipment, and overhead.
2. Replacement costs are inclusive of all types of mains and exclude related service replacements.
3. Miles of main replaced is net difference on annual DOT reports for cast iron and bare steel mains.
4. 2015 main mileage is preliminary pending final 2015 DOT report filing.

UGI Gas Exhibit HGB-7

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UGI Gas Exhibit HGB-8

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