OCA STATEMENT NO. 1

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

DIRECT TESTIMONY

OF

ASHLEY E. EVERETTE

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

EXHIBIT
R-2017-2586783
OCA Statement No. 1
6-28-17 EP PHL

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Attachments

Introduction

Q. Please state your name, business address and occupation.

A. My name is Ashley E. Everette. My business address is 555 Walnut Street, Forum Place, 5th Floor, Harrisburg, Pennsylvania 17101. I am currently employed as a Regulatory Analyst by the Pennsylvania Office of Consumer Advocate (OCA).

Q. Please describe your educational background and qualifications to provide testimony in this case.

A. I have a Master's degree in Business Administration and a Bachelor's degree in Economics from the University of Illinois. My educational background and qualifications are described in Appendix A.

Q. Please describe the general nature of Philadelphia Gas Works' rate increase request.

A. Philadelphia Gas Works (PGW or Company) requested a revenue increase of $70,000,000 for the Fully Projected Future Test Year (FPFTY) ended August 31, 2018, or 11.6% over total pro forma present gas revenues for the future test year ended August 31, 2017.[1] In PGW Statement No. 1, PGW witness Stunder stated that "PGW needs additional revenues in order to address declining financial metrics and improve them to acceptable levels in order to continue its efforts on behalf of its customers." Mr. Stunder identified "increasing operational and capital costs and decreasing consumption" as the main reasons for the proposed increase (PGW Statement No. 1, page 3).

[1] PGW's fiscal year begins September 1 and ends August 31.

Q. What was your assignment in this rate case?

A. My assignment in this rate case was to review the revenue increase proposed by PGW in the current filing and recommend accounting adjustments pursuant to generally accepted accounting and ratemaking principles. My review included an analysis of PGW's present and proposed financial schedules as provided in Exhibits JFG-1 and JFG-2.

Q. What is the OCA's overall recommendation in this rate case?

A. Considering all of my proposed adjustments that are discussed below and Mr. Habr's recommended debt service coverage ratio of 1.85 (OCA Statement No. 2), the total revenue increase calculated by the OCA in this proceeding is $33,972,000 (Exhibit AEE-1, lines 4-5). This represents an increase of 5.6% over total pro forma revenues in this case and an increase of 6.5% over pro forma distribution revenues. The revenue increase recommended in this proceeding produces Ending Cash at the end of the Fully Projected Future Test Year (FPFTY) of $82,529,000 (Exhibit AEE-3, line 26).

My testimony includes five exhibits which I have attached as OCA Exhibits AEE-1 through AEE-5.

Q. Are you aware that PGW presented a forecast budget for fiscal year 2018 to the Philadelphia Gas Commission that showed a $40 million increase in revenues as compared to the $70 million increase requested in this proceeding?

A. Yes, I am.

Q. What is your understanding of why PGW is now requesting a $70 million revenue increase from the Public Utility Commission?

A. My understanding is that the $30 million difference ($40 million to $70 million) is mainly due to PGW's proposed shift from a 30-year weather normalization period to a 10-year weather normalization period in the determination of pro forma revenues. This shift results in lower customer usage for heating customers. In general, a lower sales forecast means lower revenues at present rates and, therefore, results in a higher revenue increase to achieve the proposed revenue requirement. This issue is discussed in more detail in the Weather Normalization Period section below.

Q. What is the total level of revenues PGW has requested?

A. Including the $70 million increase, based upon the 10-year weather normalization period, PGW has requested total gas revenues of $675,991,000 (Exhibit JFG-2).

Ratemaking Methodology

Q. Please discuss the general methodology that is used for determining rates for PGW.

A. The Commission's Policy Statement at § 69.2702 outlines the methodology used for determining PGW's rates, namely, that "[t]he Commission is obligated under law to use the cash flow methodology to determine PGW's just and reasonable rates."

Q. What is the "cash flow methodology"?

A. Unlike other utilities regulated by the Commission, PGW uses the cash flow methodology.[2] The cash flow methodology is described in the Policy Statement previously mentioned. The Policy Statement provides that the rates allowed by the Commission must provide revenue allowance covering the following:[3]

1. Reasonable and prudent operating expenses
2. Depreciation allowances and debt service
3. Sufficient margins to meet bond coverage requirements and other internally generated funds over and above its bond coverage requirements, as the Commission deems appropriate and in the public interest for purposes such as capital improvements, retirement of debt and working capital.

Accordingly, when using the cash flow methodology to determine PGW's rates, the criteria above is used.

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[2] The vast majority of utilities in Pennsylvania use the "rate base / rate of return" methodology. Under the rate base / rate of return methodology, the revenue requirement is determined by multiplying the approved rate of return by the rate base and adding depreciation expense, operations and maintenance expenses and taxes. Another methodology, known as the "Operating ratio methodology," is only available to small water and wastewater utilities that meet certain conditions.

[3] For PGW, a City of Philadelphia Management Agreement Ordinance (MAO), Section VII, provides the elements that must be reflected in the revenue requirement, including operation and maintenance costs, interest and amortization of debt, general expenses, payments to the City, debt reductions and capital additions, working capital, and non-cash expenses. The MAO provides that the revenue requirement must allow for the following minimum debt service coverage ratios: 1.5x for the 1975 bonds; 1.5x for the senior 1998 bonds; and 1.0x for the subordinate 1998 bonds. The margin component includes capital expenditures not otherwise financed by debt, debt pay down, retained equity and owner dividends. Also included in the margin is the requirement as to cash working capital, as outlined in the MAO: To provide cash, or equivalent, for working capital in such reasonable amounts as may be determined by the Company to be necessary and as shall be approved by the Gas Commission.

Q. What test year did PGW use to present its financial statements under proposed rates in Exhibit JFG-2?

A. PGW used a test year of September 1, 2017 to August 31, 2018 in this case. This test year mirrors PGW's 2017-2018 fiscal year. PGW's test year is a Fully Projected Future Test Year (FPFTY) pursuant to Act 11 of 2012. Act 11 allows utilities to reflect in rates the costs that the Company will experience in the first 12 months that rates are in effect:

> (e) Use of future test year.--In discharging its burden of proof the utility may utilize a future test year or a fully projected future test year, which shall be the 12-month period beginning with the first month that the new rates will be placed in effect after application of the full suspension period permitted under section 1308(d) (relating to voluntary changes in rates). 66 Pa. Code § 315 (e)

The Historic Test Year (HTY) used in this case is the fiscal year ending August 31, 2016. The information provided by the Company for the HTY contains actual data rather than budgeted data. The Future Test Year (FTY) used by PGW in this case is the fiscal year ending August 31, 2017 and includes all budgeted data for 2016-2017.

Q. Is the test year data presented on a year-end basis or an average of cash flow needs over the year?

A. PGW's claims reflect a twelve-month cost of service based upon the cash flow method. For purposes of this case, I have not modified that portion of the claim to reflect an average of the cash flow requirement throughout the year.[4]

[4] In cases with other utilities which use the FPFTY and the rate base/rate of return ratemaking methodology, I have made adjustments to reflect the average, or midpoint of pro forma adjustments to rate base, depreciation expense, revenues, etc., in order to properly reflect the costs during the FPFTY. PGW's rate case filing is not adjudicated based upon a rate base/rate of return methodology and its depreciation expense claim is a non-cash expense; therefore, I have not made an "averaging" adjustment in this case.

Weather Normalization Period

Q. Please summarize the weather normalization period PGW used in this rate case to determine pro forma revenues.

A. As explained on page 28 of PGW Statement No. 5, in order to determine pro forma revenues at proposed rates, PGW has used a 10-year average of heating degree days (HDDs) to calculate normal degree days.

Q. Is this 10-year period the same weather normalization period that has traditionally been used by PGW?

A. No. In previous base rate cases, PGW's sales forecasts have been based on 30-year weather normalization period.

Q. What effect does the proposed shift to a 10-year normalization period have on proposed revenues?

A. The sales forecast using a 10-year weather normalization is lower than the sales forecast using a 30-year weather normalization. A lower sales forecast produces lower pro forma revenues at present rates. As a result, the amount of the increase needed to reach proposed total revenues is higher under a 10-year weather normalization than under a 30-year weather normalization.

Stated differently, the average total number of degree days during the last ten years (3,858) was lower than the average total number of degree days during the last thirty years (4,207). Using a 10-year weather normalization, the consumption per customer and the resulting sales forecast is lower as compared to a 30-year normalization period. In general, a lower sales forecast means lower revenues at present rates and, therefore, results in a higher revenue increase to achieve the proposed revenue requirement.

Q. Why is PGW requesting a 10-year weather normalization period in this case?

A. PGW witness Hanser stated that he recommends a 10-year average because the 30-year average that has been used historically is no longer supportable, and because PGW believes that a 10-year average is more consistent with previous calculations than a trended methodology would be (PGW Statement No. 5, page 28).

Q. Please discuss Mr. Hanser's statement.

A. Mr. Hanser rejects a 30-year normalization period as "no longer supportable" (PGW Statement No. 5, page 28). Mr. Hanser states that he is not recommending a trended methodology because "the use of an average rather than a trend is consistent with the past use of degree day averages to determine normal weather." However, Mr. Hanser and other PGW witnesses do not specifically explain why a 10-year methodology is more appropriate than some other period or, more importantly, is indicative of future weather-related sales for PGW.

Q. What are your concerns with using a 10-year period for weather normalization?

A. The goal of the weather normalization period is that it be representative of future weather-related sales. In my opinion, ten years is too short a period of time to use for this purpose, especially when one considers actual weather fluctuations within the last decade. For example, the coldest year in PGW's last ten fiscal years (fiscal year 2015) had 46% more HDDs than the warmest year (fiscal year 2012).[5] The total HDDs are shown below:[6]

Table 1: Total HDDs

2007: 3,773
2008: 3,746
2009: 4,181
2010: 3,730
2011: 4,005
2012: 3,034 (Warmest year)
2013: 3,889
2014: 4,405
2015: 4,431 (Coldest year)
2016: 3,354

As shown in the table above, there have been significant year-to-year fluctuations over the last ten fiscal years. For example, 2014 had 516 more HDDs (i.e. colder weather) than 2013. The next year, 2015, was colder yet with 39 more heating degree days. The next year, 2016, was warm again, with a decrease of 1,088 HDDs.

The actual number of HDDs over the last ten years indicates that even very recent weather is volatile and may not represent the weather that can be expected in the future. For these reasons, I recommend that, in this case, a longer period of time be used for the weather normalization period.

[5] 2012 had 3,037 HDDs while 2015 had 4,444 HDDs.
[6] Total HDDs and Heating Season HDDs for each year are shown in Exhibit KSD-1.

Q. Did PGW provide examples of other utilities with 10-year normalization periods?

A. Yes, in response to I&E-RS-28 and OCA-IX-12. One such utility that PGW pointed to is Centerpoint Energy Resources (Centerpoint) in Minnesota. However, the Commission decision in Minnesota does not necessarily indicate that a 10-year normalization period is appropriate for other utilities, such as PGW.

In 2010, the Minnesota Commission declined to implement a 10-year weather normalization period for Centerpoint.[7] In 2014, the Minnesota Commission did adopt a 10-year weather normalization period, but conditioned the approval as follows:[8]

> But approval of a forecast normalized using a 10-year weather history does not reflect the Commission's unequivocal support for the practice. Averages based on fewer data points are more susceptible to volatility, and are reasonably approached with skepticism.

Similarly, the 10-year period requested by PGW <u>does</u> show volatility in the number of HDDs, indicating that it might not be the best prediction for future weather.

The 2014 Minnesota Commission Order further stated as follows:[9]

> The Commission is simply persuaded, as were the Department and the ALJ, that this record establishes for this sales forecast that the 10-year weather data has superior predictive power to the alternative models considered by the parties. Because the Commission agrees with the ALJ's finding that appropriate weather normalization practices are best determined on a case-by-case basis, the Commission will not require an industry-wide investigation of weather normalization practices at this time.

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[7] <u>In the Matter of an Application by CenterPoint Energy for Authority to Increase Natural Gas Rates in Minnesota,</u> Docket No. G-008/GR-08-1075, Opinion at 126- 131 (Jan. 1, 2010), 2010 Minn. PUC Lexis 287.
[8] <u>In the Matter of an Application by CenterPoint Energy</u>, Docket No. G-008/GR-13-316, Opinion at 71 (June 9, 2014), 2014 Minn. PUC Lexis 299.
[9] Id.

In this case, while PGW has dismissed a 30-year weather normalization period, it has not explained why a 10-year period is superior to any other period, especially considering, as I discuss above, the volatility that has occurred over the most recent ten year period.

Q. Given the lack of substantial support for a 10-year weather normalization period, what do you recommend in this case?

A. PGW has not supported that a 10-year normalization period is appropriate for this rate proceeding. Therefore, I recommend that for this rate case, a 20-year normalization period be used. This change represents movement from the 30-year normalization period that has been used historically, but provides a longer period of time than 10 years in order to smooth out the volatility in degree days. I recommend that this issue be reconsidered in PGW's next rate case, in order to determine whether a normalization period other than 20 years is appropriate.

Q. What impact does a 20-year normalization period have on pro forma revenues as compared to a 10-year normalization period?

A. Using a 20 year normalization period rather than a 10 year normalization period results in an additional $11.824 million in pro forma present revenues for the FPFTY (OCA-VI-5-N, line 6). Of this total, approximately $7 million is an addition to net income and $4.8 million is attributable to the increased cost of gas.

Q. Do the schedules attached to your testimony reflect a shift to a 20-year normalization period for the sales forecast?

A. Yes. The revenue adjustment of $11.824 million is shown on line 5 of OCA Exhibit AEE-1.

Q. Should this same normalization period be used for calculating the Weather Normalization Adjustment Clause?

A. Yes. The normalization period for calculating the Weather Normalization Adjustment Clause (WNA) should be the same as the normalization period used to determine the sales forecast. Therefore, I recommend a 20-year normalization period be used for calculating the WNA. The WNA is discussed in more detail in the next section.

<u>Weather Normalization Adjustment Clause</u>

Q. Does PGW have a Weather Normalization Adjustment Clause (WNA)?

A. Yes. The WNA and the procedure for implementing it are shown on pages 149-150 of PGW's tariff. The purpose of the WNA is to reduce revenue fluctuations that occur due to abnormal weather during the heating season.

Q. Can you provide an explanation of how the WNA works?

A. Yes.[10] Suppose a heating customer uses 10 MCF in the month in question, and has a "base load" of 2 MCF. Base load represents usage during the non-weather sensitive

[10] This explanation is my understanding of how the WNA works, based on a conversation with PGW on April 27, 2017.

months of June-August. The number of average Heating Degree Days (HDDs) indicated by the weather normalization period was 900, but the actual HDDs were 1,000 (i.e. the weather was colder than "normal.") This scenario is summarized as follows:

Table 2: WNA Example A

Actual Usage	10	MCF
Base Load	<u>2</u>	<u>MCF</u>
Heating Load	8	MCF (Actual Minus Base)
Average HDDs	900	
Actual HDDs	1,000	

According to the tariff, the normalized number of HDDs is subject to a "1% band", so the HDDs used is 909, calculated as follows:[11]

900 x 1% = 9

900 + 9 = 909

909 / 1,000 = 0.91

This ratio is then multiplied by the heating load (actual load minus base load) of 8 MCF (10 MCF minus 2 MCF).

0.91 x 8 = 7.27

7.27 – 8 = -0.73

0.73 x delivery charge = what customer is credited through the WNA

In other words, the customer is credited for 0.73 MCF (or approximately three-fourths of an MCF) through the WNA in this scenario, due to colder than normal weather. At current rates, this would be a credit of $4.38.[12]

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[11] PGW's tariff states that the surcharge or credit is to be computed to the nearest one-hundredth cent (0.01 cent). I rounded to the nearest cent to simplify these examples.

Q. The previous example shows the credit a customer would receive if the weather is colder than normal. Can you provide an example of the additional amount a customer would be charged if the weather is warmer than normal?

A. Yes. For the warmer-than-normal example, suppose the heating customer uses 8 MCF in the month in question, and has a "base load" of 2 MCF. Base load represents usage during the non-weather sensitive months of June-August. The number of average Heating Degree Days (HDDs) indicated by the weather normalization period was 900, but the actual HDDs were 800 (i.e. the weather was warmer than "normal.") This scenario is summarized as follows:

Table 3: WNA Example B

Actual Usage	8	MCF
Base Load	2	MCF
Heating Load	6	MCF (Actual Minus Base)
Average HDDs	900	
Actual HDDs	800	

According to the tariff, the normalized number of HDDs is subject to a "1% band", so the HDDs used is 891, calculated as follows. Note that the band reduces the HDDs in this case, due to warmer-than-normal weather.

900 x 1% = 9

900 – 9 = 891

891 / 800 = 1.11

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[12] Page 83 of PGW's currently effective tariff shows the current delivery charge of $0.60067 per CCF for a residential customer, which is equivalent to $6.0067 per MCF. $6.0067 x 0.73 MCF = $4.38.

This ratio is then multiplied by the heating load (actual load minus base load) of 6 MCF (8 MCF minus 2 MCF).

$1.11 \times 6 = 6.66$

$6.66 - 6 = 0.66$

0.66 x delivery charge = additional amount the customer is billed through the WNA

In other words, the customer is charged for an additional 0.66 MCF (or approximately two-thirds of an MCF) through the WNA in this scenario, due to colder than normal weather. At current rates, this would be an additional charge of $3.96.[13]

Q. When the weather is colder than "normal," do customers get a full return of the difference between actual weather and normalized weather?

A. No. Due to the 1% band, PGW's WNA only calculates an adjustment for 99% of the difference. Also, my understanding is that while the WNA only applies to heating customers, non-heating customers may also use more gas when the weather is colder.

Similarly, when the weather is warmer than normal, PGW does not collect the full difference between actual weather and normalized weather due to the 1% band and the potential change in usage of non-heating customers.

[13] Page 83 of PGW's currently effective tariff shows the current delivery charge of $0.60067 per CCF for a residential customer, which is equivalent to $6.0067 per MCF. $6.0067 x 0.66 MCF = $3.96.

Q. If PGW's weather forecast is significantly different from actual weather, what affect does this have on customers?

A. As explained above, the warmer the weather prediction, the lower the sales forecast. The lower the sales forecast, the higher the per-MCF cost. If the actual weather is significantly colder than the normalized weather, not only do customers not receive the full difference through the WNA (see the discussion of the 1% band above), this also creates billing variability for customers which may be difficult for them to predict or understand.

For these reasons, I recommend that until its next rate case, PGW provide an annual report to the OCA and the Commission stating the actual number of HDDs, the total sales and the weather normalized sales.[14] This information will allow the parties to understand the impact that the weather normalization period has on customers.

Q. Please summarize your recommendation with respect to weather normalization.

A. My recommendations are as follows:

1. That a 20-year normalization period be used for the sales forecast in this case,
2. That a 20-year normalization period be used for calculating the WNA until the next case,
3. That the weather normalization period be reconsidered in PGW's next case and

[14] This reporting could be part of the report required by page 150 of the Company's tariff, which states "The Company will file all Weather Normalization Adjustments with the Commission on an annual basis."

4. That until the next rate case, PGW provide an annual report to the OCA and the Commission stating the following on a monthly basis: the actual number of HDDs, the total sales and the weather normalized sales.

Expenses

Bad Debt Expense

Q. What is bad debt expense and why does it matter to PGW?

A. Bad debt expense (also referred to as "uncollectible accounts") is the expense an entity incurs when its attempts to collect payment are unsuccessful. The level of uncollectible accounts is an important figure to PGW because higher bad debt expense means lower revenues actually collected from customers. Further, the amount of the bad debt expense is an important figure because the bad debt expense is included in revenues and ultimately collected from other ratepayers.

Q. Please state the claim PGW makes for bad debt expense in this proceeding.

A. PGW claims bad debt expense under proposed rates of $30,073,000 in the FPFTY. PGW states that this is based on a collection rate of 96% (PGW Statement No. 2, page 20). The response to OCA-XIV-2 shows that the $30,073,000 bad debt expense claim is calculated using a bad debt expense percentage of 4.5%.[15]

[15] PGW Statement No. 2, page 20 discusses the $22 million per year PGW currently collects "from accounts associated with liens." At this point, PGW has not included a claim for this expense. The OCA reserves the right to address any claim PGW makes in this case related to this expense.

Q. Has PGW recently been improving its collection rate?

A. Yes. The response to I&E-RE-8 shows the collection rates from for the fiscal years 2012 to 2016, as follows:

Table 4: Collection rates

2012: 96.61%
2013: 91.88%
2014: 94.97%
2015: 97.10%
2016: 98.41%

The collection rate is calculated as the ratio of total customer receipts to total customer billings. The average collection rate over the last five years has been 96%, which is the collection rate claimed in this case. However, the collection rate has increased significantly in recent years. Specifically, over the last three years, the average collection rate has increased to 97% and for the last two years, the average collection rate has increased to 98%.

Q. Does a 96% collection rate reflect PGW's most recent experience with collections?

A. No. As shown above, the Response to I&E-RE-8 shows that in 2015 and 2016, the collection rate was 97.10%, and 98.41%, respectively. The average collection rate over the last two years is 97.76%.

Q. Why is it important that the bad debt expense rate reflect PGW's most recent actual collection rate for ratemaking purposes?

A. PGW is spending a significant amount of money each year on collection efforts. The response to I&E-RE-13 shows that PGW expects to spend approximately $4.4 million on its Collection Department during the FPFTY. The costs of collection continue to increase. Between 2016 (the FTY) and 2018 (the FPFTY) the Company claims an increase in collection expense of $900,676 due to the additional expense of more third-party collection agencies and the addition of a third party collections administrator (I&E-RE-13, I&E-RE-42, OCA-VI-24).

The actual annual collection rates since 2015 demonstrate that PGW is successfully collecting more of its billed revenue. As the costs of the collection efforts are being included in rates, it is important an increased collection rate also be reflected in the revenue requirement.

Q. What collection rate do you recommend be used for determining PGW's rates in this rate case?

A. I recommend a collection rate of 97%, or 1% more than the 96% rate requested by PGW. PGW's collections have increased in recent years. As stated previously, the average collection rate over the last three years is 97% and the average collection rate over the last two years is 98%. At the full $70,000,000 increase requested by PGW, a 97% collection rate produces an annual expense of $23,318,000 (OCA-XIV-3), a decrease of $6,755,000 from PGW's claim of $30,073,000. At the OCA's recommended revenue increase of $33,972,000, the bad debt expense using a 97% collection rate would be $22,145,000 or an adjustment of $7,928,000. This adjustment is shown on line 24 of OCA Exhibit AEE-1. This amount is calculated on Exhibit AEE-5, using the examples PGW provided in the response to OCA-XIV-3.

Lobbying Expense

Q. Does PGW's pro forma Statement of Income (Exhibit JFG-2) include lobbying expenses?

A. Yes. In response to I&E-RE-27, PGW stated that the FPFTY includes $200,000 of lobbying expenses in the "Administrative & General" expense category.

Additionally, in response to OCA-VI-3, PGW provided a copy of its invoice for dues paid to the American Gas Association (AGA). The AGA dues are also part of the Administrative & General Expense on Exhibit JFG-2 (OCA-VI-2). The AGA invoice states that "the nondeductible portion of your 2017 dues-the portion that is allocable to lobbying is 6.4%" (OCA-VI-3, Attachment B). PGW's claim for AGA dues in the FPFTY is $443,000 (OCA-VI-2). Therefore, the lobbying portion of this expense is $28,352 ($443,000 x 6.4%).

The total lobbying expense claimed is $228,352 ($200,000 + $28,352).

Q. What is your recommendation regarding the claimed lobbying expenses?

A. It is my understanding that the Commission does not allow lobbying expenses to be recovered from ratepayers. Therefore, I recommend that the $228,352 claim for lobbying expenses be excluded for ratemaking purposes. This adjustment is shown on line 2 of Exhibit AEE-4.

Rate Case Expense

Q. Please summarize PGW's claim for rate case expense.

A. As shown in the response to filing requirement III.A.20, PGW is claiming a total of $1,784,000 of rate case expense "amortized" over a three year period, for an annual expense of $595,000. The response to I&E-RE-26 states that the requested three-year period allocates the expense "based upon the projected useful life of the intangible asset."

Q. Is amortization the appropriate treatment for rate case expense?

A. No. The Commission has consistently treated rate case expense as a normal operating expense and as such, has normalized rather than amortized the expense. In PGW's 2001 rate case, the Commission ruled that PGW's rate case expense should be normalized (Docket No. R-00006042, Order Entered October 4, 2001, pages 52-53).

Q. Is the "the projected useful life of the intangible asset" how the Commission determines the appropriate normalization period?

A. No. The appropriate period over which to normalize rate case expense is the actual historical filing frequency.

Q. What is PGW's actual historical filing frequency?

A. PGW's last three cases were filed on February 25, 2002, December 22, 2006, and December 19, 2009. The current case was filed on February 27, 2017. Therefore, the cases were filed 4.8, 3, and 7.2 years apart, respectively, an average filing frequency of five years. Notably, a five-year normalization period is shorter than the seven year period since the filing of the last rate case.

Q. **What normalization period do you recommend be used in this rate case?**

A. I recommend a five-year normalization period be used in this rate case. This is the average filing frequency of the last three cases. Based on the Company's claimed expense of $1,784,000, this would produce an annual expense of $356,800 and an adjustment of $238,200 ($595,000 - $238,200). However, the Company's claim for $1,784,000 of total rate case expense is overstated.

Q. **Please discuss your statement that the total rate case expense claim is overstated.**

A. PGW's $1,784,000 claim for rate case expense, shown in III.A.20, includes $484,000 of legal expenses, $150,000 of legal notices, printing, etc. and $1,150,000 of expenses for rate case consulting (III.A.20 and OCA-II-6). In response to I&E-RE-26, part A, PGW provided copies of contracts for its rate case consultants. Two contracts were provided: one for the Brattle Group and one for Public Financial Management (PFM). The contracts provided in response to I&E-RE-26 demonstrate that PGW's claimed $1,150,000 expense for rate case consulting is overstated.

Q. **Please discuss the provisions of each consultant's contract.**

A. The Brattle Group's contract includes services from "pre-filing advice" through "[c]ompliance filing assistance" from August 1, 2016 through August 1, 2018. The contract specifically provides as follows:

> As compensation for the Services and Materials rendered and provided, PGW covenants and agrees to pay to Consultant ***a sum not to exceed $600,000***, which shall be paid as provided in Exhibit "A". In addition, PGW will provide reimbursement for Consultant's reasonable out-of-pocket costs and expenses incurred during the performance of the Services with the prior approval of the PGW Contact per the travel and expense guidelines as set forth in Exhibit "B". Travel and other out-of-pocket ***expenses shall not exceed Fifteen Percent (15%) of the total billings*** for the Services performed pursuant to this Agreement.
>
> (Emphasis added)

Thus, the contract obligates the Brattle Group to provide all services listed in the contract for no more than $600,000.[16]

Public Financial Management's contract covers a similar period of time, including written testimony, oral testimony, responses to discovery, etc. Regarding the expense, PFM's contract provides as follows:

> In compensation for these services, PGW agrees to pay Consultant an amount not to exceed $31,999, at the hourly rate of $400, inclusive of any travel and other out-of-pocket expenses. Consultant must submit appropriately detailed bills and Invoices describing the services rendered.

Therefore, the two contracts provided by PGW appear to cover the entire range of the rate case and include a maximum expense for services of $631,999, plus potentially another $90,000 for expenses.

[16] The "Travel and other out-of-pocket expenses" clause allows up to $90,000 ($600,000 x 15%) for these expenses, if The Brattle Group both bills the full $600,000 *and* incurs a full $90,000 of expenses.

The consulting fees are summarized as follows:

Public Financial Management:	$31,999
Brattle Group Consulting Fees:	$600,000
Brattle Group Expenses:	$90,000 (or 15% of consulting fees, whichever is less)[17]
Maximum:	**$721,999**

Q. Did PGW provide an explanation for the difference between the contracts and its claim?

A. No. PGW indicated that the only contracts it entered into related to rate case consulting were the two contracts previously provided (the Brattle Group and Public Financial Management.)

PGW also stated that the contracts "may be amended" but as explained earlier, the contracts appear to cover the entire period of the case and contain "not to exceed" clauses.

Q. Please summarize your recommendation with respect to rate case expense.

A. As stated above, I recommend that a normalization period of five years be used in this case.

[17] The invoices provided for the Brattle Group show less than $2,000 of the maximum $90,000 has been spent to date (update dated April 19, 2017). Accordingly, PGW has not demonstrated that the $90,000 expense will be incurred.

Based on the lack of support for the total claimed consulting expense, the maximum expense that should be charged to ratepayers is $1,265,999. This is calculated as follows:

$484,000	Legal Fees
150,000	Legal Notices, Printing, Etc.
31,999	Public Financial Management
600,000	The Brattle Group
$1,265,999	Total

Using PGW's claimed rate case expense normalization period of 3 years, the annual expense reflecting the not-to-exceed clause in the contracts would be $422,000. However, as explained above, a historical rate case expense normalization period of five years is appropriate in this case. Accordingly, an annual expense of $253,200 ($1,265,999 / 5 years) is warranted, resulting in an adjustment of $341,800 to PGW's claim of $595,000 ($595,000 - $253,200). This adjustment is shown on line 3 of OCA Exhibit AEE-4.

Incentive Compensation

Q. Please summarize PGW's claim for incentive compensation.

A. As shown in the responses to OCA-II-12 and OCA-IX-2, PGW included a claim for incentive compensation of $115,000 for the "C-suite" employees (the CEO, COO, CFO, and CAO). The incentive compensation is considered "at risk compensation" by PGW (OCA-IX-2) as it is dependent "upon successful completion of annual corporate goals."

Q. Did the Commission address a similar expense claim in a previous litigated PGW base rate case?

A. Yes. In PGW's 2006 base rate case, the Commission disallowed PGW's incentive compensation plan, finding as follows (Docket No. R-00061931, Order Entered September 28, 2007, page 48):

> The ALJs noted that PGW failed to show by record evidence the requisite documentation to comply with its Management Agreement, that PGW has not presented studies or submitted any data to support its claimed inability to retain competent management personnel without such a program and that the Philadelphia Gas Commission did not allow the expense in PGW's 2007 budget because "clearly articulated, well-defined, quantitative goals and criteria (as are used in private industry for such 'pay-for-performance' programs) are absent." Accordingly, we shall deny the exceptions of PGW on this issue and adopt the recommendation of the ALJs to disallow the $500,000 claimed expense.

Q. In this case, did PGW "[present] studies or [submit] any data" showing the incentive compensation is necessary?

A. No.

Q. In this case, did PGW provide "clearly articulated, well-defined, quantitative goals and criteria" on which the executive incentive compensation is based?

A. No. In fact, when asked for a copy of the incentive compensation plan, PGW responded as follows (I&E-RE-7, bolding added):

> At-risk compensation of up to 10% of base annual salary may be earned by PGW's C-Suite (i.e., CEO, COO, CFO and CAO, Chief Administration Officer, currently vacant) upon successful completion of annual corporate goals. This is a practice of the Board of Directors of the Philadelphia Facilities Management Corporation, **and is not memorialized in a "plan" per se.**

Q. Did PGW provide any other details about the executive incentive compensation?

A. Yes. The response to OCA-IX-2 provided a general list of "corporate goals" which were used for determining the incentive compensation for fiscal year 2017. However, even this response does not show that PGW has a specified methodology for determining incentive compensation. The response states that the criteria for fiscal year 2018 (i.e. the FPFTY) has not been established yet.

Q. What is your recommendation regarding the incentive compensation?

A. Because PGW has not supported its claim for incentive compensation by demonstrating how incentive compensation is determined or "clearly articulated, well-defined, quantitative goals and criteria" for the FPFTY level of expense, I recommend that this $115,000 expense be excluded for ratemaking purposes. This adjustment is shown on line 4 of OCA Exhibit AEE-4.

<u>Administrative and General Expenses – Risk Management</u>

Q. Please summarize PGW's claim for Administrative and General Expenses – Risk Management.

A. PGW's total claim for Administrative and General (A&G) Expense of $66,334,000 is shown on line 24 of Exhibit JFG-2. In response to I&E-RE-17, PGW provided a breakdown of this expense. The FPFTY expense of $66,334,000 includes an expense for Risk Management of $12,003,000. The Insurance component of this expense is $5,309,000 in the FPFTY.

In response to I&E-RE-47, PGW explained why this expense increased by approximately $1.3 million between 2016 and 2018. As part of the explanation, PGW stated the following:

> Finally, $250,000 of the increase comes from the inclusion of funds to cover insurance needs relating to possible future large scale development or for any other development which could create an environmental risk. These funds were conditionally approved by the Gas Commission to be only used in the event of the specified circumstances.

Q. What is the "large scale development" referred to in this response?

A. It is my understanding that this refers to PGW's proposed plan to expand its liquefied natural gas (LNG) plant.

Q. Is this cost appropriately included in this case?

A. No. PGW said in response to OCA-VI-1 that "No expenses are included in the FPFTY for LNG expansion." Accordingly, an increase in insurance expense related to the expansion is not appropriately included in rates at this time. This is particularly true due to the uncertainty that this expense will ever be incurred.

Q. Please summarize your adjustment to A&G Risk Management Insurance expense.

A. I recommend that the $250,000 Insurance expense be removed in this case due to the lack of support that this expense will be incurred within the FPFTY. This adjustment is shown on line 5 of Exhibit AEE-1.

Conclusion

Q. Please summarize your testimony.

A. I recommend that PGW be permitted to implement an increase of $33,972,000 in lieu of the proposed increase of $70,000,000 (Exhibit AEE-1, lines 4-5). As shown on line 18 of Exhibit AEE-2, this revenue increase reflects the debt service coverage ratio of 1.85 recommended by OCA witness Habr (OCA Statement No. 2). As shown on line 26 of Exhibit AEE-3, the year-end cash produced by this revenue increase is $82,529,000. Additionally, I recommend the following findings with respect to the weather normalization period, as discussed above:

1. That a 20-year normalization period be used for the sales forecast in this case,
2. That a 20-year normalization period be used for calculating the WNA until the next case,
3. That the weather normalization period be reconsidered in PGW's next case and
4. That until the next rate case, PGW provide an annual report to the OCA and the Commission stating the following on a monthly basis: the actual number of HDDs, the total sales and the weather normalized sales.

Q. Does this conclude your direct testimony at this time?

A. Yes, it does. I reserve the right to modify or supplement my testimony if necessary.

233080

OCA STATEMENT NO. 1

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

EXHIBITS ACCOMPANYING THE

DIRECT TESTIMONY

OF

ASHLEY E. EVERETTE

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

PHILADELPHIA GAS WORKS
R-2017-2586783
Statement of Income
(Dollars in Thousands)

Line No.	Description	10-YR HDD FORECAST 2017-18	Adjustment	20-YR HDD FORECAST 2017-18	Reference
	FUNDS PROVIDED				
1	Non-Heating	$ 26,230	-	$ 26,230	
2	Gas Transport Service	44,614	-	44,614	
3	Heating	534,832	-	534,832	
4	Revenue Enhancement / Cost Reduction	70,000	(47,852)	22,148	
5	Revenue Adjustment for 20 Year Avg. of HDDs		11,824	11,824	
6	Weather Normalization Adjustment	-	-	-	
7	Unbilled Adjustment	315	-	315	
8	Total Gas Revenues	675,991	(36,028)	639,963	
9	Appliance Repair & Other Revenues	8,265		8,265	
10	Other Operating Revenues	12,757		12,757	
11	Other Operating Revenues	21,022	-	21,022	
12	Total Operating Revenues	697,013	(36,028)	660,985	
13	Other Income Incr. / (Decr.) Restricted Funds	1,707	-	1,707	
14	City Grant	-	-	-	
15	AFUDC (Interest)	920	-	920	
16	TOTAL FUNDS PROVIDED	699,640	(36,028)	663,612	
	FUNDS APPLIED				
17	Fuel Costs	184,970	4,864	189,834	OCA-VI-5
18	Gas Processing	17,521	-	17,521	
19	Field Services	40,340	-	40,340	
20	Distribution	42,562	-	42,562	
21	Collection	4,420	-	4,420	
22	Customer Service	13,807	-	13,807	
23	Account Management	8,487	-	8,487	
24	Bad Debt Expense	30,073	(7,928)	22,145	Exhibit AEE-5
25	Marketing	4,439	-	4,439	
26	Administrative & General	66,334	(935)	65,399	Exhibit AEE-4
27	Health Insurance	30,811	-	30,811	
28	Environmental	-	-	-	
29	Capitalized Fringe Benefits	(11,620)	-	(11,620)	
30	Capitalized Administrative Charges	(12,945)	-	(12,945)	
31	Pensions	51,800	-	51,800	
32	Taxes	8,437	-	8,437	
33	Other Post Employment Benefits	31,028	-	31,028	
34	Cost / Labor Savings	-	-	-	
35	Sub-Total Other Operating & Maintenance	325,494	(8,863)	316,631	

PHILADELPHIA GAS WORKS
R-2017-2586783
Statement of Income
(Dollars in Thousands)

Line No.	Description	10-YR HDD FORECAST 2017-18	Adjustment	20-YR HDD FORECAST 2017-18	Reference
36	Depreciation	50,596	-	50,596	
37	Cost of Removal	4,100	-	4,100	
38	To Clearing Accounts	(7,516)	-	(7,516)	
39	Net Depreciation	47,180	-	47,180	
40	**Sub-Total Other Operating Expenses**	372,674	(8,863)	363,811	
41	**Total Operating Expenses**	557,644		553,645	
42	Operating Income	139,369		107,341	
43	Interest Gain / (Loss) and Other Income	3,031		3,031	
44	Income Before Interest	142,400		110,372	
	Interest				
45	Long-Term Debt	49,160		49,160	
46	Other	(6,893)		(6,893)	
47	AFUDC	(920)		(920)	
48	Loss From Extinguishment of Debt	5,666		5,666	
49	**Total Interest**	47,013		47,013	
50	**Net Income**	**95,387**		**63,359**	
51	City Payment	18,000		18,000	
52	**Net Earnings**	77,387		45,359	

EXHIBIT
R-2017-2586783
OCA-AEE-1
6-28-17 EP PHL

OCA Exhibit AEE-2

PHILADELPHIA GAS WORKS
R-2017-2586783
Debt Service Coverage
(Dollars in Thousands)

Line No.	Description	10-YR HDD FORECAST 2017-18	Adjustment	20-YR HDD FORECAST 2017-18	Reference
	Total Funds Provided	$ 699,640		$ 663,612	
1	Total Operating Expenses	557,644	(3,999)	553,645	Exhibit AEE-1
2	Less: Non-Cash Expenses	78,214	-	78,214	
3	Total Funds Applied	479,430	(3,999)	475,430	
4	Funds Available to Cover Debt Service	220,210	(32,028)	188,182	
5	1975 Ordinance Bonds Debt Service	-	-	-	
6	Debt Service Coverage 1975 Bonds	-	-	-	
7	Net Available after Prior Debt Service	220,210	(32,028)	188,182	
8	Equipment Leasing Debt Service	-	-	-	
9	Net Available after Prior Capital Leases	220,210	(32,028)	188,182	
10	1998 Ordinance Bonds Debt Service	101,720	-	101,720	
11	1999 Ord. Subordinate Bonds Debt Service - (TXCP)	-	-	-	
12	Total 1998 Ordinance Debt Service	101,720	-	101,720	
13	Debt Service Coverage 1998 Bonds	2.164869	(0.314869)	1.850000	OCA St. No. 2
14	Net Available after 1998 Debt Service	118,490		86,462	
15	1998 Ordinance Subordinate Bond Debt Service	-			
16	Debt Service Coverage Subordinate Bonds	-			
17	Aggregate Debt Service	101,720		101,720	
18	Debt Service Coverage (Combined liens)	2.16		1.85	
19	Debt Ser. Cov. (Combined liens with $18.0 City Fee)	1.99		1.67	

EXHIBIT
R-2017-2586783
OCA-AEE 2
6-28-17 GP PHC
PENGAD 800-631-6989

PHILADELPHIA GAS WORKS
R-2017-2586783
Cash Flow Statement
(Dollars in Thousands)

Line No.	Description	10-YR HDD FORECAST 2017-18	20-YR HDD FORECAST 2017-18
	Sources		
1	Net Income	$ 95,387	$ 63,359
2	Depreciation & Amortization	47,000	47,000
3	Earnings on Restricted Funds Withdrawal/(No Withdrawal)	(1,324)	(1,324)
4	Proceeds from Bond Refunding to Pay Cost of Issuance	-	-
5	Increased/(Decreased) Other Assets/Liabilities	(5,274)	(5,274)
6	Available From Operations	135,789	103,761
7	Drawdown of Bond Proceeds	52,000	52,000
8	Grant Income	-	-
9	Lease Funds Debt Service	-	-
10	Capitalized Interest	-	-
11	Release of Restricted Fund Asset	-	-
12	Release of Bond Proceeds to Pay Temporary Financing	-	-
13	Temporary Financing	-	-
14	TOTAL SOURCES	187,789	155,761
	Uses		
15	Net Construction Expenditures	109,010	109,010
16	Funded Debt Reduction:	-	-
17	Revenue Bonds	51,834	51,834
18	Temporary Financing Repayment	-	-
19	Distribution of Earnings	18,000	18,000
	Additions To (Reductions of)		
20	Non-Cash Working Capital	188	188
21	Cash Needs	179,032	179,032
22	Cash Surplus (Shortfall)	8,757	(23,271)
23	**Total Uses**	187,789	155,761
24	Cash - Beginning of Period	105,800	105,800
25	Cash - Surplus (Shortfall)	8,757	(23,271)
26	**Ending Cash**	**$ 114,557**	**$ 82,529**

PHILADELPHIA GAS WORKS
R-2017-2586783
Summary of OCA Adjustments
(Dollars in Thousands)

Line No.	Description		Amount	Reference
1	Bad Debt Expense	$	(7,928)	Exhibit AEE-3
	Administrative & General			
2	Lobbying Expense		(228)	OCA Statement No. 1
3	Rate Case Expense		(342)	OCA Statement No. 1
4	Incentive Compensation		(115)	OCA Statement No. 1
5	Risk Management		(250)	OCA Statement No. 1
6	Total Expense Adjustments		(8,863)	

PENGAD 800-631-6989 EXHIBIT
R-2017-2586783
OCA-AEE-4
6-28-17 EP AH

OCA Exhibit AEE-5

PHILADELPHIA GAS WORKS
R-2017-2586783
Bad Debt Expense
(Dollars in Thousands)

Line No.	Description	Amount	Reference
1	Expense at $70M increase per PGW	$ 30,073	Exhibit JFG-2, Line 22
2	Expense at $70M increase with 97% collection rate	23,318	OCA-XIV-3
3	Increase per OCA	33,972	Exhibit AEE-1, Lines 4-5
4	Bad Debt Expense at $30 M per PGW (97% coll. rate)	21,937	OCA-XIV-3
5	Bad Debt Expense at $40 M per PGW (97% coll. rate)	22,282	OCA-XIV-3
6	Bad Debt Expense at OCA recommended increase	22,145	
7	Adjustment	(7,928)	

OCA STATEMENT NO. 1

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

APPENDIX A TO THE

DIRECT TESTIMONY

OF

ASHLEY E. EVERETTE

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

Appendix A

QUALIFICATIONS OF
ASHLEY E. EVERETTE

Education

2012 M.B.A., University of Illinois

2010 B.A. Economics, University of Illinois

Positions

2012 – Present	Regulatory Analyst, Pennsylvania Office of Consumer Advocate
2009 – 2012	Research Assistant, Center for Business and Regulation, University of Illinois

Experience

I am currently employed by the Pennsylvania Office of Attorney General, Office of Consumer Advocate (OCA) as a Regulatory Analyst. At the OCA, my responsibilities include reviewing utility company filings with the Pennsylvania Public Utility Commission and analyzing the financial, economic, rate of return, and policy issues that are relevant to the filings. Additionally, my responsibilities include preparing recommendations for the OCA's involvement in utility filings with the PA PUC, writing testimony and presenting oral testimony on behalf of the OCA.

Continuing Education

IPU Advanced Regulatory Studies Program, Michigan State University, October 2015

NARUC Staff Subcommittee on Accounting and Finance Conference, April 2015

NARUC Staff Subcommittee on Accounting and Finance Conference, March 2014

Camp NARUC, Michigan State University, August 2013

NARUC Staff Subcommittee on Accounting and Finance Conference, April 2013

SURFA Financial Forum, April 2013

Testimonies

The following is a list of cases in which I submitted testimony:

R-2012-2310366 Pa. P.U.C. v. City of Lancaster – Sewer Fund

R-2013-2350509 Pa. P.U.C. v. City of DuBois – Bureau of Water

R-2013-2360798 Pa. P.U.C. v. Columbia Water Company

R-2013-2370455 Pa. P.U.C. v. Penn Estates Utilities, Inc. – Sewer Division

R-2013-2390244 Pa. P.U.C. v. City of Bethlehem – Bureau of Water

R-2014-2402324 Pa. P.U.C. v. Emporium Water Company

R-2014-2428304 Pa. P.U.C. v. Hanover Municipal Waterworks

R-2014-2452705 Pa. P.U.C. v. Delaware Sewer Company

R-2015-2462723 Pa. P.U.C. v. United Water Pennsylvania

C-2014-2427657 Pa. Off. of Atty. General and Off. of Consumer Advocate v. IDT Energy, Inc.

C-2014-2427659 Pa. Off. of Atty. General and Off. of Consumer Advocate v. Respond Power, LLC

C-2014-2427655 Pa. Off. of Atty. General and Off. of Consumer Advocate v. Blue Pilot Energy, LLC

P-2014-2404341 Petition of Delaware Sewer Company

C-2014-2447138 Tanya J. McCloskey, Acting Consumer Advocate v. Hidden Valley Utility Services, L.P. – Water

C-2014-2447169 Tanya J. McCloskey, Acting Consumer Advocate v. Hidden Valley Utility Services, L.P. – Wastewater

P-2015-2501500 Petition of Philadelphia Gas Works for Waiver of Provisions of Act 11 to Increase the Distribution System Improvement Charge Cap and to Permit Levelization of DSIC

R-2016-2554150 Pa. P.U.C. v. City of DuBois – Bureau of Water

R-2016-2531550 Pa. P.U.C. v. Citizens' Electric Company

R-2016-2531551 Pa. P.U.C. v. Wellsboro Electric Company

A-2016-2580061 Application of Aqua Pennsylvania Wastewater Inc.

The following is a list of additional cases in which I participated but that settled prior to the filing of testimony:

R-2012-2302261 Pa. P.U.C. v. Herman Riemer Gas Company

R-2012-2330877 Pa. P.U.C. v. North Heidelberg Sewer Company

R-2012-2315536 Pa. P.U.C. v. Imperial Point Water Company

R-2012-2336662 Pa. P.U.C. v. Rock Spring Water Company

R-2013-2350265 Pa. P.U.C. v. NRG Energy Center Harrisburg

R-2013-2367108 Pa. P.U.C. v. Fryburg Water Company

R-2013-2367125 Pa. P.U.C. v. Cooperstown Water Company

R-2013-2400003 Pa. P.U.C. v. Borough of Ambler Water Department

R-2014-2420204 Pa. P.U.C. v. Pocono Waterworks Company Inc. – Water Division

R-2014-2420211 Pa. P.U.C. v. Pocono Waterworks Company Inc. – Wastewater Division

R-2014-2144379 Pa. P.U.C. v. Herman Oil and Gas Company

R-2014-2427035 Pa. P.U.C. v. Venango Water Company

R-2014-2427189 Pa. P.U.C. v. B.E. Rhodes Sewer Company

R-2014-2430945 Pa. P.U.C. v. Plumer Water Company

R-2015-2479962 Pa. P.U.C. v. Corner Water Supply and Service Corporation

R-2015-2470184 Pa. P.U.C. v. Borough of Schuylkill Haven Water Department

R-2015- 2479955 Pa. P.U.C. v. Allied Utility Services, Inc.

R-2015-2478098 Pa. P.U.C. v. Appalachian Utilities, Inc.

R-2015-2506337 Pa. P.U.C. v. Twin Lakes Utilities, Inc.

163664

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Ashley E. Everette, hereby state that the facts above set forth in my Direct Testimony, OCA Statement No. 1, are true and correct and that I expect 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).

Signature: Ashley E. Everette
Ashley E. Everette

Consultant Address: Office of Consumer Advocate
5th Floor, Forum Place
555 Walnut Street
Harrisburg, Pa. 17101-1923

DATED: May 16, 2017
233090.docx

OCA STATEMENT NO. 1-S

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

SURREBUTTAL TESTIMONY

OF

ASHLEY E. EVERETTE

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 22, 2017

Table of Contents

Introduction

Q. Please state your name, business address and occupation.

A. My name is Ashley E. Everette. My business address is 555 Walnut Street, Forum Place, 5th Floor, Harrisburg, Pennsylvania 17101. I am currently employed as a Regulatory Analyst by the Pennsylvania Office of Consumer Advocate (OCA).

Q. Have you previously provided testimony in this case?

A. Yes. I provided direct testimony in this case on May 16, 2017 in OCA Statement No. 1.

Q. What is the purpose of your surrebuttal testimony?

A. In my surrebuttal testimony, I will comment on the rebuttal testimony of PGW witnesses Joseph F. Golden, Jr. (PGW Statement No. 2-R), Daniel J. Hartman (PGW Statement No. 3-R), Frank C. Graves (PGW Statement No. 4-R), Philip Q. Hanser (PGW Statement No. 5-R), and Kenneth S. Dybalski (PGW Statement No. 6-R). I will address PGW's rebuttal testimony related to recommendations made in my direct testimony. I have attached OCA Exhibits AEE-1S through AEE-5S, which reflect the adjustments I am recommending in this case, revised as I will discuss below.

Q. Did PGW accept any adjustments made in your direct testimony?

A. Yes, PGW accepted my $250,000 adjustment for insurance related to the expansion of the PGW's liquefied natural gas plant (PGW Statement No. 2-R, page 21).

Q. Have you reflected the updates made by PGW in Exhibit JFG-2-A?

A. Yes. My exhibits reflect PGW's updated schedules as well as the adjustments discussed below.

Q. What is the OCA's updated overall recommendation in this rate case?

A. Considering all of my proposed adjustments that are discussed below and Mr. Habr's recommended debt service coverage ratio of 1.85x (OCA Statement No. 2), the total revenue increase calculated by the OCA in this proceeding is $32,101,000 (Exhibit AEE-1, lines 4-5).[1] This represents an increase of 5.3% over total pro forma revenues in this case and an increase of 6.1% over pro forma distribution revenues. The revenue increase recommended in this proceeding produces Ending Cash at the end of the Fully Projected Future Test Year (FPFTY) of $80,558,000 (Exhibit AEE-3, line 26).

Q. Regarding the Ending Cash produced by the OCA's overall recommendation, please respond to Mr. Golden's statement that PGW needs at least $101,768,000 to meet its cash obligations.

A. The largest component of the $101.8 million is PGW's planned capital expenditures spending. As OCA witness Habr explains in OCA Statement No. 2-S, PGW's claim has the whole amount funded through internally generated funds, but Mr. Habr shows that PGW has debt financing available as a cost-effective way to fund at least $25 million of this spending (OCA Statement No. 2-S, pages 2-3). Additionally, other items on PGW's

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[1] This is the increase over pro forma present rates using a ten-year weather normalization period. As explained in my direct testimony, the OCA recommends that a 20-year weather normalization period be used for determining pro forma rates. As such, of the $32.101 million, $11.824 million is an increase to revenues at present rates. See OCA Exhibit AEE-1S, line 6.

list are questionable. For example, the Health Escrow fund claim of $1.167 does not comport with my understanding of what I&E is recommending regarding their Health Escrow proposal. As I understand it, I&E's recommendation to escrow the health insurance funds would not require any amount of funds beyond those already included on the income statement. Accordingly, PGW's claim that it needs $101.8 million of Ending Cash for cash obligations after debt service is overstated.

Ratemaking Methodology

Q. Please state how the test year used to project PGW's revenue requirement in this case compares to the time period used to determine the revenue requirement in PGW's last case.

A. In the instant case, PGW provided data for the following test years:

- Historic Test Year (HTY): 12 months ended August 31, 2016.
- Future Test Year (FTY): 12 months ended August 31, 2017.
- Fully Projected Future Test Year (FPFTY): 12 months ended August 31, 2018.

The rates proposed by PGW, as well as the rates that will ultimately be allowed by the Commission, are based on the FPFTY. PGW's last base rate case used a FTY.[2] This means that PGW's expenses and cash needs are forecasted 12 months further out than PGW was able to do in the last case.

[2] PGW's last case was filed in 2009 and resolved by settlement in 2010. Act 11, which permits utilities to use a FPFTY, was passed in 2012.

Q. Did PGW witness Mr. Graves comment on the long-term implications of the revenue proposals made by the OCA and the Commission's Bureau of Investigations and Enforcement (I&E)?

A. Yes. Mr. Graves provided his comments on the proposed debt service coverage ratios on pages 1-4 of PGW Statement No. 4-R. Referring to I&E witness Rachel Maurer's testimony, Mr. Graves stated,

> However, her analysis and conclusions are based only on the single FPFTY, with no consideration of the longer term consequences for additional debt financing and the resulting reductions in coverage and cash on hand.

Q. Is the OCA's recommendation based on the "single FPFTY"?

A. Yes. In accordance with proper ratemaking principles, the OCA's proposed revenue increase reflects the revenues, expenses, and debt service during the FPFTY.

Q. Should the level of revenues allowed by the Commission reflect an appropriate level of revenues for time periods beyond the "single FPFTY"?

A. No. The Commission determines the allowable revenues based on the test year. In this case, PGW has used a Fully Projected Future Test Year (FPFTY), which, as shown above, means that the expense and coverage claims made in this case represent PGW's expectations for the year after rates go into effect. It would be inappropriate for rates established in this case to reflect the costs for any period beyond the FPFTY.

Q. Do you have any further response to Mr. Graves' testimony?

A. Yes. Mr. Graves' testimony appears to be a criticism of the fact that the proposals make a recommendation for the Fully Projected Future Test Year (FPFTY) without making sure the revenues are sufficient for later years as well. As I explained above, the rates in this case are determined for the FPFTY only, and are not based upon PGW revenue and expense projections for periods beyond the test year.

The OCA's proposed revenue increase produces ending cash of $80,558,000 (OCA Exhibit AEE-3S, line 26), as compared to PGW's ending cash at present rates of $46,637,000 (Exhibit JFG-1-A, page 2, line 23). Additionally, the debt service coverage ratio (DSCR) recommended by the OCA is 1.85x (OCA Exhibit AEE-2, page 13), as compared to the DSCR at present rates of 1.51x (Exhibit JFG-1, page 3, line 22). Therefore, the OCA's proposal increases both ending cash and the debt service coverage ratio.

Additionally, as noted in OCA witness Habr's surrebuttal testimony, PGW's 2016 rating by S&P (contained in Exhibit JFG-3) states that S&P considers a coverage ratio of 1.8x to 2.0x to be "strong." The OCA's recommendation of 1.85x falls within this range.

Q. Please comment on PGW's analogies of its finances to personal finance.

A. PGW witnesses stated that increasing its debt financing is analogous to "a household maxing out a credit card" (PGW Statement No. 3-R, page 6) or "a cash advance on a credit card" (PGW Statement No. 3-R), page 8. This is an illogical comparison. PGW is not a household. PGW is a municipal natural gas utility. Households finance their needs through earned income; prudent utilities finance their needs through a reasonable mix of debt and equity.

Q. Do you agree with PGW witness Mr. Hartman that the Commission's approval of PGW's annualized, levelized DSIC at 7.5% is "an obvious endorsement of PGW's strategy with respect to maintaining a prudent amount of debt and not excessively leveraging the system"?

A. No. The strategy discussed in PGW's DSIC case was PGW's strategy for "aggressive main replacement" (Docket No. P-2015-2501500, Order Entered January 28, 2016, pages 41-42). The Commission stated,

> It is undisputed in this proceeding that PGW's aging gas distribution infrastructure poses significant safety and reliability issues, and that the current pace of the Company's replacement efforts is unacceptable and potentially harmful to the public.... It is clear that in order for PGW to address these substantial infrastructure issues, it must obtain the additional funding necessary to further accelerate its main replacement efforts.

Contrary to Mr. Hartman's claim that the Commission's decision was "an obvious endorsement of PGW's strategy with respect to maintaining a prudent amount of debt and not excessively leveraging the system," the Commission stated,

> We believe that granting PGW a waiver of the statutory 5% DSIC limitation, as provided for in Act 11, may be the most cost-effective and least problematic means of ensuring that the Company can obtain this additional funding in a timely fashion.

The Commission approved PGW's funding strategy *specifically for the DSIC* and *specifically to mitigate the safety issue* of PGW's aging gas distribution infrastructure.

The Commission specified that the DSIC waivers were a cost-effective means of funding the necessary infrastructure upgrades. This does not mean that up-front cash financing is the appropriate strategy for all PGW funding.

I&E witness Ms. Maurer referenced the Commission Staff Report on PGW's pipeline replacement program in her direct testimony. It was in this report that the Commission suggested that PGW annualize its DSIC rate (which it did through the waiver described above). In this same report, the Staff also suggested that PGW consider issuing more debt.[3] Thus, PGW's analysis of the Commission's view of PGW's "strategy" appears to be misguided.

PGW should issue debt when it is appropriate. PGW should not be given revenues that are not necessary in the test year, just in case they are needed later.

Q. Please discuss Mr. Hartman's rebuttal testimony, page 2, regarding his claim that "PGW has no realistic ability to fund additional critical capital improvements."

A. PGW's budget and ratemaking claims in this case include capital improvements (Exhibit JFG-2-A, page 2, line 12). It is not clear why PGW thinks it should be entitled to additional cash to fund unapproved, possible capital improvements. It is possible that in the next few years, PGW will find itself in need of additional revenues. This is a normal part of being a regulated utility. The solution is not to give PGW additional revenues now

[3] I&E Statement No. 1, pages 5-6, *citing* Pennsylvania Public Utility Commission Staff Report: Inquiry into Philadelphia Gas Works' Pipeline Replacement Program, April 21, 2015, p. 6.

for expenses that it may or may not incur at some point in the future. The solution is for PGW to reduce expenditures whenever possible and to file another rate case when and if it becomes necessary.

<u>Weather Normalization</u>

Q. Did PGW respond to your recommendations regarding the weather normalization period?

A. Yes. PGW witnesses Mr. Dybalski and Mr. Hanser responded to my recommendation that the Commission use a 20-year period of Heating Degree Days (HDDs), rather than a 10-year period of HDDs, to forecast the Company's sales. In OCA Statement 1, I explained that while PGW witnesses testified that a 30-year weather normalization period is no longer reasonable, it did not adequately support that its proposed 10-year weather normalization period **<u>is</u>** reasonable. I recommended that a 20-year weather normalization period be used, and that the issue be considered again in the next case to determine whether a shorter or longer period of time was reasonable.

Q. Please discuss the reasons Mr. Dybalski listed in support of PGW's proposed 10-year weather normalization period.

A. Citing Mr. Hanser's direct testimony, Mr. Dybalski reiterated the three reasons PGW has used to support its 10-year weather normalization period. The reasons were as follows (PGW Statement No. 6-R, pages 5-6):

1. Data showing that the 30-year average is no longer supportable as reflective of "normal" degree days in PGW's service territory;
2. The 10-year average is a more supportable methodology compared to the current 30-year average;
3. The use of an average rather than a trend is consistent with the past use of degree day averages to determine normal weather.

However, none of the reasons provided by PGW actually support that a 10-year period is reasonable.

PGW Reason 1: Data showing that the 30-year average is no longer supportable as reflective of 'normal' degree days in PGW's service territory.

This statement shows why PGW wishes to depart from the historical time period of 30-years, but does not provide support for any other time period.

PGW Reason 2: The 10-year average is a more supportable methodology compared to the current 30-year average.

This statement simply says the 10-year average is more supportable, but provides no support or reasons of why this might be true.

PGW Reason 3: The use of an average rather than a trend is consistent with the past use of degree day averages to determine normal weather.

This statement indicates that an average is appropriate, but provides no support for any particular period of time to average.

Q. **Do you agree with Mr. Dybalski that the table on page 8 of your testimony supports PGW's idea that the 10-year weather normalization period is more likely to be indicative of future weather patterns than a 20-year normalization period would be?**

A. No. The table on page 8 of my testimony shows the number of HDDs for the last ten years. All that this means is that the weather over the last 10 years is the weather over the last ten years. This chart is in no way predictive of future weather patterns.

Regarding PGW's assertion that the warmer weather from the last decade will continue, it is interesting to note that the two coldest years in the last decade were 2014 and 2015. (i.e. within the last 2-3 years). Other than one particularly warm year, the last five years have been colder than the prior five years.

Q. **Please discuss Mr. Hanser's rebuttal testimony.**

A. Mr. Hanser states that he disagrees with using a 20-year weather normalization because "the ideal weather normal is one that more accurately represents the current and future heating degree days ("HDDs") in order to allow the company to plan and set rates for the most likely conditions."

I agree with Mr. Hanser that the best weather normalization period to use is one that most closely reflects the weather that will be experienced going forward. The issue is that neither PGW nor any other party can predict what the weather will be next year, or in five years. PGW has not shown that a 10 year average provides the best prediction of future HDDs.

Regarding Mr. Hanser's comments about the trended methodology (PGW Statement No. 5-R, pages 14-15), as previously noted by Mr. Hanser (PGW Statement No. 5, page 28), the trending methodology is not consistent with how weather normalization periods are typically determined in Pennsylvania.

Q. Please discuss Mr. Dybalski's comments regarding the use of the WNA in making sure the right time period is used.

A. Responding to my concern about the volatility that may be caused if such a short period of time is used, Mr. Dybalski stated as follows (PGW St. No. 6-R, page 6):

> This explanation overlooks the fact that PGW's Weather Normalization Adjustment Clause ("WNA") satisfactorily addresses any concerns about the possibility of actual temperatures being lower than a 10-year normal level since the WNA would result in a credit to customers.

If this were true, it would follow that PGW should be neutral to what the weather normalization period is. However, it is not. Having the sales forecast be as accurate as possible is necessary to provide the proper price signals to customers. Contrary to PGW's argument, as I explained on pages 14-15 of OCA Statement 1, customers are not made whole if the actual temperatures are colder than what PGW has predicted.

Q. Are there any other reasons to use a 20-year normalization period rather than a 10-year normalization period in this case?

A. Yes. As I explained on page 10 of my direct testimony, the proposed 10-year weather normalization period contains significant volatility in HDDs and a 20-year period provides a longer time to smooth out this volatility.

Additionally, it is clear that using a normalization of the HDDs over the last ten years has the potential to create significant volatility in customers' bills. In Exhibit JFG-2, Mr. Golden provided the weather normalization adjustment revenue and refunds for the last three years. These amounts were as follows:

2015: Refunds of $10,747,000 (indicating weather colder than the 30-year average)
2016: Revenues of $41,479,000 (indicating weather warmer than the 30-year average)
2017: Revenues of $5,905,000 (indicating weather warmer than the 30-year average)

The ten-year average of HDDs indicates warmer weather than the 30-year average. Accordingly, the 2015 refunds would have been significantly higher if a 10-year normalization period had been used to determine base rates. Also, the HDDs in 2017 likely would have resulted in net refunds rather than in revenues if a 10-year normalization period had been used to determine base rates.[4]

[4] As stated in OCA Statement 1, page 3, the difference at pro forma present rates between a 10-year weather normalization and a 30-year weather normalization in the FPFTY is approximately $30 million.

Q. Please provide a summary of your recommendations with respect to the weather normalization period.

A. The recommendations in my direct testimony were as follows:

1. That a 20-year normalization period be used for the sales forecast in this case,
2. That a 20-year normalization period be used for calculating the WNA until the next case,
3. That the weather normalization period be reconsidered in PGW's next case and
4. That until the next rate case, PGW provide an annual report to the OCA and the Commission stating the following on a monthly basis: the actual number of HDDs, the total sales and the weather normalized sales.

Q. Are you making any changes to these recommendations?

A. No. PGW responded to my recommendation on the normalization period to be used for calculating weather normalized sales, but not to any of my other recommendations regarding the weather normalization. Therefore, these recommendations should be adopted by the Commission.

Expenses

Bad Debt Expense

Q. Please summarize your recommended adjustment to PGW's bad debt expense.

A. As I explained on pages 16-18 of OCA Statement 1, PGW's collection rate has improved in recent years. The five year average collection rate is 96%, but the average of the three most recent years is 97%. The two most recent years are even higher at nearly 98%. I recommend that the Commission use the three-year average collection rate of 97% to determine PGW's bad debt expense.

Q. Please summarize PGW's rebuttal testimony on this issue.

A. PGW witness Mr. Golden testified that the four-year average collection rate is 95.14% and the five-year average collection rate is 95.79%. PGW proposed a collection rate of 96.00%, which is slightly higher than the four or five year average. However, as I explained in direct testimony, PGW is spending considerable funds to improve the collection rate, and it is appropriate that the improved collection rate be reflected in rates.

Mr. Golden further provided information regarding the collection rate through April 2017. This data shows that while the collection rate over the most recent 12 months is somewhat lower, the collection rate over the most recent 24 months is 96.6% and the collection rate over the most recent 36 months is 97.3%. A normalized collection rate should be used for determining the appropriate amount of bad debt expense to include in rates.

In addition to the discussion about the actual collection rates, Mr. Golden stated that the bad debt expense should not be reduced due to the "unsettled lien issues that are pending in the Third Circuit Court" (PGW Statement No. 2-R, page 15). The effect the case related to lien issues may have is speculative and not known and measurable at this point in time. The collection rate should not be set lower than the actual normalized level as a result of speculation of the future outcome of the lien case.

Q. Is your proposal of a 97% collection rate consistent with the conclusion of the Philadelphia Gas Commission?

A. Yes. The Philadelphia Gas Commission (PGC), which approves PGW's budget, found a 97% collection rate was appropriate to use for fiscal year 2017. The PGC found that 97% better represented the normal level of bad debt expense, stating as follows:

> The recommended 97% collection rate and associated Bad Debt expense are simply budgeting targets, which may or may not be met as the myriad factors which impact collections unfold during FY 2017. These targets - like all aspects of PGW's Operating Budget - should be set based on normal weather, not a "what-if" worst case scenario. When previously deciding to assume a higher collection rate than proposed by PGW, this Commission acknowledged that Bad Debt expense will ultimately be the amount judged to be appropriate by PGW and its outside financial auditors. We take notice that in the past five fiscal years (including FY 2016's estimated results), actual Bad Debt expense has differed from the amount originally budgeted by $3.5 million or more. PGW has already demonstrated it can exceed 96% and has attained a 97% average for the past three fiscal years (FY 2014 through FY 2016).[5]

Similarly, rates determined for ratepayers should be based on the normal level of bad debt expense.

Q. Please summarize your adjustment to bad debt expense.

A. This adjustment, updated to reflect the level of revenues shown in Exhibit AEE-1S, is $7,863,000. This adjustment is shown on line 24 of Exhibit AEE-1S. This amount is

[5] Philadelphia Gas Commission Order And Resolution, Order dated October 6, 2016, page 10.

calculated on Exhibit AEE-5S, using the examples PGW provided in the response to OCA-XIV-3.

Lobbying Expense

Q. Please summarize your adjustment to lobbying expense.

A. As explained on page 19 of OCA Statement 1, I recommend that the $228,352 lobbying expense claim be excluded for ratemaking purposes because the Commission does not allow lobbying expenses to be recovered from ratepayers.

Q. Please discuss PGW's response to this adjustment.

A. Mr. Golden stated that PGW's lobbying efforts benefit ratepayers and should therefore be deemed a reasonable expense.

The Commission has repeatedly ruled that lobbying expenses should not be charged to ratepayers. In PGW's 2001 case, the Commission considered "the constitutional and statutory standard of being 'just and reasonable'" and eliminated PGW's lobbying expense claim (Docket No. R-00006042, Order entered October 4, 2001, pages 63-66). In PGW's 2006 case, PGW chose to withdraw its claim for lobbying expense and the Commission found the withdrawal to be "reasonable and consistent with the regulatory treatment of this type of expense" (Docket No. R-00061931, Order entered September 28, 2007, page 31). Accordingly, despite its stance as a cash flow utility, it is inappropriate to include the cost of lobbying expenses in PGW's revenue requirement. This adjustment of $228,000 is shown on line 2 of Exhibit AEE-4S.

Rate Case Expense

Q. Please summarize your adjustments to rate case expense.

A. As shown on pages 20-24 of OCA Statement 1, I made three recommendations with respect to rate case expense:

1. That PGW normalize rather than amortize its rate case expense.
2. That the rate case expense be normalized over five years rather than over three years.
3. That the rate case expense be updated to reflect the level of expenses shown in the contracts provided in the response to I&E-RE-26.

Q. Please discuss PGW's response to your recommendation to normalize rather than amortize rate case expense.

A. PGW accepted my recommendation to normalize rather than amortize rate case expense (PGW Statement No. 2-R, page 17, lines 1-2).

Q. Please discuss PGW's response to your recommendation to normalize rate case expense over five years.

A. PGW disagreed with my recommendation to normalize the rate case expense over five years rather than over three years. On page 17 of PGW Statement No. 2-R, Mr. Golden stated "Depending upon the outcome of this proceeding, PGW currently plans to file another rate case within three years."

As noted in OCA Statement 1, the rate case expense normalization period should not be based on speculative intentions of potential future filings. It is not clear what Mr. Golden means by "Depending on the outcome of this proceeding" but the use of an actual historical period between filings is precisely to avoid setting rates based on speculative, contingent plans. PGW's actual historical filing frequency of five years should be used to determine the level of rate case expense.

Q. Please discuss PGW's response to your recommendation regarding the overall level of expense.

A. In response to my testimony, which noted that the rate case expense contracts contain "not to exceed" clauses, PGW updated its rate case expense claims to remove the expense in excess of the amounts allowed by the contracts. PGW claims that amendments to the rate case expense contracts have been made or are currently in process (PGW Statement No. 2-R, page 18) and therefore, Mr. Golden updated PGW's claim to reflect the increased level of expenses. In rebuttal testimony, PGW did not provide a copy of the updated contract or any other information to support the additional $140,000 of expense. The OCA requested support for the increased level of rate case expense, including the contract amendments, in OCA XVIII-8 through OCA XVIII-13. As of the date this testimony was finalized, PGW had not provided responses to these requests.

Although support for the expenses is still needed, I have noted the updated level of rate case expense claimed by PGW on page 18 of PGW Statement No. 2-R. As explained above, PGW claims a normalization of three years for this expense, resulting in an annual expense of $480,504 ($1,441,513 / 3). For the reasons explained in OCA Statement 1 and reiterated above, the actual historical normalization period of 5 years should be used for ratemaking purposes, resulting in an annual expense of $288,303 ($1,441,513 / 5). The resulting adjustment of $192,000 ($480,504 - $288,303) is shown on line 3 of Exhibit AEE-4S.

Incentive Compensation

Q. Please summarize your adjustment to incentive compensation expense.

A. As shown on pages 24-26 of OCA Statement 1, I recommended that the incentive compensation expense for C-Suite employees be excluded for ratemaking purposes because PGW did not provide adequate support to show that the incentive compensation is necessary or appropriate, or quantitative goals on which it was based.

Q. Please discuss PGW's rebuttal testimony on this issue.

A. On pages 19-20 of his rebuttal testimony, Mr. Golden provided the same table that was provided in a discovery response which showed the guidelines used for the 2017 incentive compensation expense. This table shows general corporate goals but does not show how these goals translate to whether the bonuses are paid or how much they are for. Notably, the incentive compensation amounts paid in the years 2014 and 2015 were approximately 50% less than the amount being claimed in this case.[6]

[6] Incentive compensation for executive employees in 2014 and 2015 was $64,793 and $89,340, respectively, for an average of $77,066. The budgeted 2017 expense is $115,000, which is 50% more than the average expense in 2014 and 2015. The 2016 incentive compensation for executive employees was significantly higher at $414,667.

Q. What is your recommendation regarding the incentive compensation?

A. Because PGW has not supported its claim for incentive compensation by demonstrating how incentive compensation is determined or "clearly articulated, well-defined, quantitative goals and criteria" for the FPFTY level of expense, I recommend that this $115,000 expense be excluded for ratemaking purposes. This adjustment is shown on line 4 of OCA Exhibit AEE-4.

Cash Uses

Health Insurance Escrow Fund

Q. Please summarize the claim PGW made for funds for the Health Insurance Escrow Fund.

A. As shown on line 12-A of Exhibit JFG-2-A, page 2, PGW shows a Cash Use of $1,167,000 for the Deposit Into Restricted Health Escrow Fund. PGW witness Mr. Golden claims on pages 28-29 of his rebuttal testimony that these funds are necessary to establish the health insurance escrow fund that I&E witness Mr. Keller recommended in his direct testimony.

Q. Do you agree that the funds for this deposit should be added to the calculation of rates in this proceeding?

A. No. It is my understanding that Mr. Keller recommends that the health insurance expenses claimed in rates be placed in this escrow account so the funds are not used elsewhere. This does not change the $30.811 million health insurance expense claimed by

PGW. Therefore, no additional funds are needed for this purpose. This claim by PGW and my recommendation to remove it are shown on line 15-A of Exhibit AEE-3S.

Conclusion

Q. Please summarize your testimony.

A. I recommend that PGW be permitted to implement an increase of $32,101,000 in lieu of the proposed increase of $70,000,000 (Exhibit AEE-1, lines 4-5), to produce total operating revenues of $659,114,000. As shown on line 18 of Exhibit AEE-2S, this revenue increase reflects the debt service coverage ratio of 1.85x recommended by OCA witness Dr. Habr (OCA Statement No. 2). As shown on line 26 of Exhibit AEE-3S, the year-end cash produced by this revenue increase is $80,558,000 Additionally, I recommend the following findings with respect to the weather normalization period, as discussed above:

1. That a 20-year normalization period be used for the sales forecast in this case,
2. That a 20-year normalization period be used for calculating the WNA until the next case,
3. That the weather normalization period be reconsidered in PGW's next case and
4. That until the next rate case, PGW provide an annual report to the OCA and the Commission stating the following on a monthly basis: the actual number of HDDs, the total sales and the weather normalized sales.

Q. Does this conclude your direct testimony at this time?

A. Yes, it does. However, as noted previously, the OCA has outstanding discovery. I reserve the right to modify or supplement my testimony if necessary.

236072

OCA STATEMENT NO. 1-S

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

EXHIBITS ACCOMPANYING THE

SURREBUTTAL TESTIMONY

OF

ASHLEY E. EVERETTE

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 22, 2017

PHILADELPHIA GAS WORKS
R-2017-2586783
Statement of Income
(Dollars in Thousands)

Line No.	Description	10-YR HDD FORECAST 2017-18	Adjustment	20-YR HDD FORECAST 2017-18	Reference
	FUNDS PROVIDED				
1	Non-Heating	$ 26,230	-	$ 26,230	
2	Gas Transport Service	44,614	-	44,614	
3	Heating	534,832	-	534,832	
4	Revenue Enhancement / Cost Reduction	70,000	(49,723)	20,277	
4-A	Health Escrow Fund Surcharge	1,167	(1,167)	-	OCA St. 1-S
5	Revenue Adjustment for 20 Year Avg. of HDDs		11,824	11,824	
6	Weather Normalization Adjustment	-	-	-	
7	Unbilled Adjustment	315	-	315	
8	Total Gas Revenues	677,158	(39,066)	638,092	
9	Appliance Repair & Other Revenues	8,265		8,265	
10	Other Operating Revenues	12,757		12,757	
11	Other Operating Revenues	21,022	-	21,022	
12	Total Operating Revenues	698,180	(39,066)	659,114	
13	Other Income Incr. / (Decr.) Restricted Funds	1,707	-	1,707	
14	City Grant	-	-	-	
15	AFUDC (Interest)	920	-	920	
16	TOTAL FUNDS PROVIDED	700,807	(39,066)	661,741	
	FUNDS APPLIED				
17	Fuel Costs	184,970	4,864	189,834	OCA-VI-5
18	Gas Processing	17,521	-	17,521	
19	Field Services	40,340	-	40,340	
20	Distribution	42,562	-	42,562	
21	Collection	4,420	-	4,420	
22	Customer Service	13,807	-	13,807	
23	Account Management	8,487	-	8,487	
24	Bad Debt Expense	30,073	(7,863)	22,210	Exhibit AEE-5S
25	Marketing	4,439	-	4,439	
26	Administrative & General	65,969	(535)	65,434	Exhibit AEE-4S
27	Health Insurance	30,811	-	30,811	
28	Environmental	-	-	-	
29	Capitalized Fringe Benefits	(11,620)	-	(11,620)	
30	Capitalized Administrative Charges	(12,945)	-	(12,945)	
31	Pensions	51,800	-	51,800	
32	Taxes	8,437	-	8,437	
33	Other Post Employment Benefits	31,028	-	31,028	
34	Cost / Labor Savings	-	-	-	
35	Sub-Total Other Operating & Maintenance	325,129	(8,399)	316,730	

PHILADELPHIA GAS WORKS
R-2017-2586783
Statement of Income
(Dollars in Thousands)

Line No.	Description	10-YR HDD FORECAST 2017-18	Adjustment	20-YR HDD FORECAST 2017-18	Reference
36	Depreciation	50,596	-	50,596	
37	Cost of Removal	4,100	-	4,100	
38	To Clearing Accounts	(7,516)	-	(7,516)	
39	Net Depreciation	47,180	-	47,180	
40	**Sub-Total Other Operating Expenses**	372,309	(8,399)	363,910	
41	**Total Operating Expenses**	557,279		553,744	
42	Operating Income	140,901		105,370	
43	Interest Gain / (Loss) and Other Income	3,031		3,031	
44	Income Before Interest	143,932		108,401	
	Interest				
45	Long-Term Debt	49,160		49,160	
46	Other	(6,893)		(6,893)	
47	AFUDC	(920)		(920)	
48	Loss From Extinguishment of Debt	5,666		5,666	
49	**Total Interest**	47,013		47,013	
50	**Net Income**	**96,919**		**61,388**	
51	City Payment	18,000		18,000	
52	**Net Earnings**	78,919		43,388	

EXHIBIT
R-2017-2586783
OCA-AEE-1S
6-28-17 PM

OCA Exhibit AEE-2S

PHILADELPHIA GAS WORKS
R-2017-2586783
Debt Service Coverage
(Dollars in Thousands)

Line No.	Description	10-YR HDD FORECAST 2017-18	Adjustment	20-YR HDD FORECAST 2017-18	Reference
	Total Funds Provided	$ 700,807		$ 661,741	
1	Total Operating Expenses	557,279	(3,535)	553,744	Exhibit AEE-1
2	Less: Non-Cash Expenses	80,185	-	80,185	
3	Total Funds Applied	477,094	(3,535)	473,559	
4	Funds Available to Cover Debt Service	220,210	(32,028)	188,182	
5	1975 Ordinance Bonds Debt Service	-	-	-	
6	Debt Service Coverage 1975 Bonds	-	-	-	
7	Net Available after Prior Debt Service	220,210	(32,028)	188,182	
8	Equipment Leasing Debt Service	-	-	-	
9	Net Available after Prior Capital Leases	220,210	(32,028)	188,182	
10	1998 Ordinance Bonds Debt Service	101,720	-	101,720	
11	1999 Ord. Subordinate Bonds Debt Service - (TXCP)	-	-	-	
12	Total 1998 Ordinance Debt Service	101,720	-	101,720	
13	Debt Service Coverage 1998 Bonds	2.164869	(0.314869)	1.850000	OCA St. No. 2
14	Net Available after 1998 Debt Service	118,490		86,462	
15	1998 Ordinance Subordinate Bond Debt Service	-			
16	Debt Service Coverage Subordinate Bonds	-			
17	Aggregate Debt Service	101,720		101,720	
18	Debt Service Coverage (Combined liens)	2.16		1.85	
19	Debt Ser. Cov. (Combined liens with $18.0 City Fee)	1.99		1.67	

EXHIBIT
PENGAD 800-631-6989
R2017 2586783
OCA-AEE-2S
6-28-17 EP PJL

PHILADELPHIA GAS WORKS
R-2017-2586783
Cash Flow Statement
(Dollars in Thousands)

Line No.	Description	10-YR HDD FORECAST 2017-18	20-YR HDD FORECAST 2017-18
	Sources		
1	Net Income	$ 96,919	$ 61,388
2	Depreciation & Amortization	47,000	47,000
3	Earnings on Restricted Funds Withdrawal/(No Withdrawal)	(1,324)	(1,324)
4	Proceeds from Bond Refunding to Pay Cost of Issuance	-	-
5	Increased/(Decreased) Other Assets/Liabilities	(5,274)	(5,274)
6	Available From Operations	137,321	101,790
7	Drawdown of Bond Proceeds	52,000	52,000
8	Grant Income	-	-
9	Lease Funds Debt Service	-	-
10	Capitalized Interest	-	-
11	Release of Restricted Fund Asset	-	-
12	Release of Bond Proceeds to Pay Temporary Financing	-	-
13	Temporary Financing	-	-
14	TOTAL SOURCES	189,321	153,790
	Uses		
15	Net Construction Expenditures	109,010	109,010
15-A	Deposit Into Restricted Health Escrow Fund	1,167	-
16	Funded Debt Reduction:	-	-
17	Revenue Bonds	51,834	51,834
18	Temporary Financing Repayment	-	-
19	Distribution of Earnings	18,000	18,000
	Additions To (Reductions of)		
20	Non-Cash Working Capital	188	188
21	Cash Needs	180,199	179,032
22	Cash Surplus (Shortfall)	9,122	(25,242)
23	**Total Uses**	189,321	153,790
24	Cash - Beginning of Period	105,800	105,800
25	Cash - Surplus (Shortfall)	9,122	(25,242)
26	**Ending Cash**	**$ 114,922**	**$ 80,558**

EXHIBIT
R-2017-2586783
OCA-AEE-3S
6-28-17 EP ph

PHILADELPHIA GAS WORKS
R-2017-2586783
Summary of OCA Adjustments
(Dollars in Thousands)

Line No.	Description	Amount	Reference
1	Bad Debt Expense	$ (7,863)	Exhibit AEE-3
	Administrative & General		
2	Lobbying Expense	(228)	OCA Statement No. 1
3	Rate Case Expense	(192)	OCA Statement No. 1-S; Note (1)
4	Incentive Compensation	(115)	OCA Statement No. 1
5	Risk Management	-	Note (2)
6	Total Expense Adjustments	(8,399)	

(1) PGW accepted a portion of the original adjustment and reflected updated rate case expense in Exhibit JFG-2-A.

(2) PGW accepted the adjustment and reflected updated rate case expense in Exhibit JFG-2-A.

EXHIBIT
R-2017-2586783
OCA AEE-4S
6-28-17 EP PHL

OCA Exhibit AEE-5S

PHILADELPHIA GAS WORKS
R-2017-2586783
Bad Debt Expense
(Dollars in Thousands)

Line No.	Description	Amount	Reference
1	Expense at $70M increase per PGW	$ 30,073	Exhibit JFG-2, Line 22
2	Expense at $70M increase with 97% collection rate	23,318	OCA-XIV-3
3	Increase per OCA	32,101	Exhibit AEE-1, Lines 4-5
4	Bad Debt Expense at $30 M per PGW (97% coll. rate)	21,937	OCA-XIV-3
5	Bad Debt Expense at $40 M per PGW (97% coll. rate)	22,282	OCA-XIV-3
6	Bad Debt Expense at OCA recommended increase	22,210	
7	Adjustment	(7,863)	

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Ashley E. Everette, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement No. 1-S, are true and correct and that I expect 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).

Signature: Ashley E. Everette
Ashley E. Everette

Consultant Address: Office of Consumer Advocate
5th Floor, Forum Place
555 Walnut Street
Harrisburg, Pa. 17101-1923

DATED: June 22, 2017
235891.doc

OCA STATEMENT NO. 2

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

DIRECT TESTIMONY OF

DR. DAVID S. HABR

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

May 16, 2017

Q: Please state your name and business address.

A: David S. Habr, 213 Cornuta Way, Nipomo, CA.

Q: By whom are you employed?

A: I am the owner of Habr Economics, a consulting firm I founded in January 2009. The firm focuses on cost of capital and mergers and acquisitions.

Q: Would you provide a brief description of your education and experience?

A: Yes. I received a Bachelor of Arts (1968) and a Master of Arts (1969) degree in economics from the University of Nebraska – Lincoln. I received a Ph.D. degree in economics from Washington State University in 1976.

I began my career in utility regulation when I joined the Iowa State Commerce Commission (n/k/a the Iowa Utilities Board) in 1981. My first rate of return testimony was filed in a Northwestern Bell case in 1983 and I have continued to testify on rate of return since then. In 1987, I was hired by the Iowa Office of Consumer Advocate to establish and develop their testifying staff as well as continue to testify on rate of return and other financial and economic matters. I remained in that position until the end of 2008. Since starting Habr Economics I have filed testimony in merger cases in Maine and Maryland and rate of return testimony in Maine and Maryland. I also prepared rate of return testimony for the Utah Office of Consumer Services and filed testimony in Iowa on the impact of holding company strategic decisions on the efficiency of utility company operations.

Prior to joining the Iowa State Commerce Commission staff I had a private consulting practice, worked for a small consulting firm, and served six years as member of the economics faculty at Drake University. My vita, Exhibit DSH-1, contains a more detailed account of my previous activities.

Q: What is the purpose of your direct testimony in this proceeding?

A: The purpose of my testimony is to determine the appropriate debt service coverage ratio to use in this proceeding. I also comment on various aspects of the testimonies of Messrs. Golden, Graves, and Hartman.

Q: Have you prepared any exhibits to accompany your testimony?

A: Yes, I have prepared Exhibits DSH-1 through DSH-7. A brief description of each exhibit follows:

DSH-1 – Habr's vita

DSH-2 – Is PGW's response to OCA Interrogatory OCA – XII – 1. It shows the detail of the impact of GASB 75 on Other Post Employment Benefits (OPEB) as well as the reduction in City Equity as a result of GASB 75.

DSH-3 – Is a table showing impact of a $70 million rate increase on net position.

DSH-4 – Shows most recent 10 years' funds available to cover debt service, annual debt service, debt service ratio, and funds remaining after debt service.

DSH-5 – Is PGW's response to OCA Interrogatory OCA – XV – 1. It shows debt service's interest and principal components for the period FTY 2016-17 through Forecast 2021-22.

DSH-6 – Is the second page (unnumbered) of the general description preceding the Official Statement for the 14th Series $312,425,000 Refunding Bond Issue. It shows the due date and coupon rate for each of the 22 individual bonds encompassed by this issue.

DSH-7 – Is a table showing PGW's historical days-of-cash and the days-of-cash based on OCA's position.

Q: How does your analysis fit into the revenue requirement calculation?

A: Philadelphia Gas Works (PGW) rates are established using the cash flow method. Under this method the revenue requirement is the sum of operating expenses, debt service, and a "margin" sufficient to maintain the organization's ability to attract capital on reasonable terms. The 1998 Ordinance under which all of PGW's outstanding revenue bonds have been issued requires that 1.5 times the debt service amount be included in the rate calculation. My role is to determine how much additional margin, if any, needs to be added to establish a reasonable revenue requirement that will result in just and reasonable rates.

Q: How much is PGW proposing to increase base rates?

A: PGW is proposing a $70 million base rate increase.

Q: What were the driving forces for this proposed increase?

A: Mr. Stunder, at page 3 of his direct testimony, stated that "[t]here are two key factors causing the need for additional revenues; increasing operational and capital costs and decreasing consumption."

Reasonable and prudent increases in operating costs will be included in the revenue requirement. Capital expenditures are a different matter. For a cash flow regulated company, funds for capital expenditures come from either the margin included in rates or debt issuances or a combination of both. In PGW's case, the question is; what is a reasonable split between customer and debt funded capital expenditure financing especially given the income distribution of PGW's customers.

Q: What is the effective test-year split between customer financing and bond financing for capital expenditures in Mr. Golden's exhibit JFG-2?

A: To determine that split one must first subtract debt service from the total funds available. Mr. Golden shows $118,490,000 cash funds remaining after debt service on JFG-2, page 3. Next, the $18 million annual City Fee must be subtracted from this amount leaving $100,490,000 available to support capital expenditures.[1]

The cash flow statement on page 2 of JFG-2 shows capital expenditures of $109,010,000 and bond proceeds of $52,000,000. This implies $57,010,000 in capital spending supported by customer provided funds with the remaining $43,480,000 of customer provided funds available for other purposes.

Q: What do you believe to be the driving force for this rate case?

A: I believe PGW's implementation of GASB 75 is the driving force for this filing.[2] PGW is implementing GASB 75 during the current fiscal year and as a result is reducing City equity (net position) by $261,188,000 (a non-cash charge) and increasing the FY 2016/17 Other Post Employment Benefit (OPEB) liability by

[1] The $18 million annual City fee is a payment PGW is required to make to the City of Philadelphia.
[2] GASB 75 is an accounting standard for Other Post Employment Benefits that was issued in 2015. It has an impact similar to previously issued FASB statements related Other Post Employment Benefits.

$249,320,000. (See Exhibit DSH-2.) Thus, the debt ratios in excess of 90% shown for FTY 2016/17 and FPFTY 2017/18 on page 4 of Mr. Golden's Exhibits JFG-1 and JFG-2 are not the result of PGW's upcoming $270 bond issue or other ongoing operations. Rather, they are the result of PGW's conformance with GASB 75 requirements.

Q: Does PGW's conforming with GASB 75 have any impact on PGW's finances in addition to the increase in PGW's debt ratio?

A: Yes. While the total liability is a non-cash charge, the annual payments to reduce that liability significantly reduce PGW's cash flow. Exhibit DSH-2 shows a $23.6 million reduction in the test year cash flow followed by a $28.2 million reduction in FY 2019 and ending with a $45.2 million reduction in FY 2022. This of course reduces the amount of internal funds available to support PGW's construction program as well as the amount of cash on hand to be used for working capital.

Q: What brought the implementation of GASB to your attention?

A: While reviewing Mr. Golden's Exhibits JFG-1 and JFG-2, I observed that many performance measures had significant changes between FTY 2016-17 and FPFTY 2017-18 or HTY 2015-16 and FTY 2016-17. Specifically, year-end cash fell from $105.8 million to $47.4 million and debt service coverage fell from 2.18 to 1.51 between FTY 2016-17 and FPFTY 2017-18 while the debt ratio increased from 76.28% to 97.42% between HTY 2015-16 and FTY 2016-17.

Q: Do you have other observations about PGW's proposed $70 million base rate increase?

A: Yes. PGW is asking customers to support reducing PGW's debt ratio to the level that existed prior to the significant reduction in net position caused by the previously discussed $261,188,000 GASB 75 induced non-cash charge to net position by dramatically increasing PGW's net position. With a $70 million rate increase, Exhibit DSH-3 shows net position increasing by more than the $70 million in the test year and each of the following years. The $261 million charge is being recovered in slightly more than three years which is unduly burdensome to PGW's customers.

PGW's improved operating history in the recent past has resulted in S&P upgrading PGW from A- to A and Moody's increasing PGW's outlook from stable to positive.[3] Mr. Golden's forecasts indicate the expectation that this operating standard will continue. For example, on Exhibit JFG-1, page 3, his forecast debt service coverage ratios are low but quite stable. This operating stability will allow PGW to recover the OPEB write down over a longer period of time.

Q: Is there any need for PGW to pursue rapid upgrades in its bond rating?

A: No. PGW currently has solid investment grade ratings and is certainly not teetering on the edge of a down grade due to operating problems. Pursuing upgrades at a rate faster than they may be obtained under current rates would require increased rates which would create a heavier burden for many of PGW's customers.

Q: What debt service coverage ratio are you recommending in this proceeding?

[3] Exhibit JFG-3.

A: I am recommending the revenue requirement be set at a level that generates a 1.85 debt service coverage ratio.

Q: How did you arrive at a value of 1.85 for the debt service coverage ratio?

A: I began by reviewing the testimony and exhibits of Messrs. Golden, Graves, and Hartman. I also reviewed material in PGW's annual reports, responses to OCA and other parties' interrogatories, and some press reports related to the 2013 proposed sale of PGW. In the process, I evaluated PGW's performance in the last ten years.

Q: How did you examine PGW's performance?

A: I looked at the cash PGW generated in excess of its debt service requirements as reported in PGW's *Comprehensive Annual Financial Report* for fiscal years 2016 and 2015 and the debt service coverage ratios associated therewith. (See Exhibit DSH-4.) These excess funds provide the foundation for PGW's credit ratings which, as I noted above, have been improving in recent years.

Q: What was your goal in developing your recommended debt service coverage ratio?

A: My goal in developing an appropriate debt service coverage ratio was to provide PGW the opportunity to support its credit rating without causing undue burden to ratepayers. I use the information in Exhibit DSH-4 to accomplish this task. The average debt service coverage ratio for the 10-year period is 1.81 while the average for the recent 5-year period is 1.88. I chose the average of the 5 and 10-year periods, 1.85, for the debt service coverage ratio to give more weight to the improved operations in the more recent years without completely ignoring the earlier years.

Q: What is the magnitude of the excess funds provided by your recommended debt service ratio?

A: Based on the test year $101,720,000 debt service shown on Exhibit JFG-2, page 1, my ratio generates $86,462,000 million in excess funds.[4] This is at the upper end of the $77,476,000 – $90,358,000 range for the 2013 – 2016 time period. Subtracting $18 million for the City Fee leaves over $68 million available for capital expenditures.

Q: How does your 1.85 debt service coverage ratio impact the time period over which the $261,188,000 GASB 75 charge to net position is recovered from customers?

A: It increases the time period and thereby reduces the burden on customers.

Q: What caused the debt service coverage shown on Exhibit JFG-1, page 1to fall between FTY 2016-17 and FPFTY 2017-18?

A: This decline was driven by two factors, a $14.4 million decline in non-cash expenses and a $34.8 million increase in debt service costs. Approximately half, $17.56 million, of the debt service cost increase is from the anticipated $270 million issue. At this time it is unclear if the actual first year debt service associated with the $270 million issue will be this high.

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[4] $86,462,000 = $101,720,000 x 0.85.

Q: Why do you believe the first year debt service for the $270 million issue could be less than $17.56 million?

A: There are two reasons. First, in the response to OCA Interrogatory XV-1, the $11.88 million first year debt service for the recent 14th Series $312,425,000 debt issue is $5.68 million less than the forecast $17.56 million first year debt service for the upcoming $270 million debt issue. (See Exhibit DSH-5, p. 1.)

Second, Mr. Golden apparently estimated the annual debt service for the $270 million by assuming it would be paid off like a regular mortgage with a 5% annual interest rate with an annual debt service of $17.56 million. This is demonstrated by the equality of the interest and principal payments shown on Exhibit DSH-5, page 1 with the interest and principal payments for the first five years of the mortgage amortization schedule on page 2. Annual principal and interest payments for municipal utility revenue bonds are typically not based on mortgage amortization schedules.

Q: What does a maturity schedule for a revenue bond look like?

A: The maturity schedule for PGW's most recent bond issue is shown on Exhibit DSH-6. This schedule does not show any resemblance to a mortgage amortization schedule. What it clearly shows is that the bond issuance was actually an issuance of a group of bonds with differing maturity dates and coupon rates whose principal amount totaled $312,425,000. The principal amount of each bond in the issue is under PGW's control.

For the upcoming $270 million bond issue, PGW may end up choosing to issue $2 million in principal maturities in each of the first five years with 2% coupon rates instead of the $4 million plus principal payments with accompanying interest charges based on a 5% rate in each of the five years shown on Exhibit DSH-5, page 1. Making that choice would reduce the test year's debt service requirement by $2 to $3 million dollars.

Q: How many days-of-cash are generated by your recommended 1.85 debt service coverage ratio?

A: As shown on Exhibit DSH-7, my recommended debt service coverage ratio yields 63.4 days-of-cash. This is in the 55.2 to 78.5 range PGW experienced between 2011 and 2016. This average can be enhanced through short-term borrowings during the heating season if necessary. There is no need to obtain permanent financing from ratepayers when short-term financing will suffice.

Q: Does this conclude your direct testimony?

A: Yes. I reserve the right to supplement this testimony should additional information become available.

233190

OCA Statement No. 2

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

EXHIBITS ACCOMPANYING

DIRECT TESTIMONY OF

DR. DAVID S. HABR

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

May 16, 2017

DAVID S. HABR

213 Cornuta Way
Nipomo, CA 93444-5020 **805-931-8079 (H)**
david.habr@habreconomics.com **515-229-7388 (W)**

SUMMARY

Ph.D. economist with over thirty years of applied economic and financial experience in utility regulation. Has special expertise in rate of return, mergers, and asset transactions. Was instrumental in determining the methodology used in class cost of service and rate design. Solid technical background with testimony that is very clear and defendable under cross examination. Recognized by the Governor of Iowa for his knowledge and understanding of public utilities' operations and his fair and balanced judgment.

PROFESSIONAL EXPERIENCE

Habr Economics . . . . January 2009 – Present

Habr Economics established in January 2009 after a successful career in public utility regulation. The firm specializes in rate of return, mergers, asset transactions, and general policy issues.

Consumer Advocate Division,
Iowa Department of Justice . . . . November 1987 – December 2008

Chief, Technical Bureau . . . . July 1989 – December 2008
Leader of the Consumer Advocate Division's technical staff. Staff's expertise includes accounting, economics, finance, and electrical engineering. Members testify on matters ranging from the cost of capital, rate design, and transmission line location to optimal programs for demand side management. Disputed amounts have ranged from $1 million to over $100 million.

- Testified as an expert witness in over 45 cases on the cost of common equity, the overall cost of capital, and other economic and financial matters including utility mergers, asset acquisitions, and competitive market analysis. Testimony successfully defended under strenuous cross examination.

- Initiated studies on electric restructuring which demonstrated that electric deregulation could cost Iowa customers a minimum of $200 million per year. These un-refuted results helped the efforts which lead to restructuring being rejected in Iowa.

- Achieved consensus in settlement negotiations, represented the Office in public forums, Public Consumer Advocate Sector representative on Midwest Independent System Operator Advisory Committee, drafted legislation, and prepared and managed the OCA's $3 million annual budget.

- Identified and hired the professional staff needed to expand from a six to a 17 person technical staff in 1989. Staff educational level ranges from B.A.'s to Ph.D.'s. At December 31, 2008 staff's average time with the Office was 19 years.

EXHIBIT
R-2017-2586783
OCA DSH-1
6-28-17 EPPH

Head, Technical Section . . . . November 1987 – July 1989

Hired to establish the Consumer Advocate's initial six person technical staff and advise the Consumer Advocate and legal staff on economic matters. Staff's main goal was to provide the attorneys with technical assistance on accounting, economics, engineering, financial, and rate design matters.

- Testified as an expert witness on the cost of common equity, the overall cost of capital, and other economic or financial matters.

- Integrated the use of bond betas to develop a "risk premium" method of estimating common equity cost rates based on the Capital Asset Pricing Model.

Utilities Division,
Iowa Department of Commerce . . . . September 1981 – November 1987

Utility Specialist . . . . September 1981 – November 1987

- Determined cost of common equity and overall cost of capital for various utility companies. Presented the analysis as written testimony and was subject to cross-examination on the testimony. By 1987, I had generated annual savings to Iowa customers in excess of $50 million.

- Completed article integrating brokerage fees and flotation cost in the discounted cash flow model which was accepted for publication in the January 1988 issue of the National Regulatory Research Institute Quarterly Bulletin. Presented a paper on the use of double leverage in determining the cost of capital for utility subsidiaries of a holding company to the Economics and Finance Subcommittee at the 1987 Winter Meeting of the National Association of Regulatory Utility Commissioners.

- Refined and improved the accuracy of the computer program used to calculate the weighted cost of capital for rate case presentation.

Private Consulting Practice . . . . September 1980 – September 1981

- Estimated damages in two antitrust cases; helped develop a brief in a third antitrust case.

- Testified on a telephone rate design issue before the Iowa State Commerce Commission and on alternative benefit payment methods before the Iowa Industrial Commission.

Mitchell & Mitchell Economists, Ltd. . . . . October 1979 – August 1980

- Organized and developed the economics group. Secured and completed contract with Northwestern Bell to develop a revenue forecasting model. Secured and completed contract with City of Des Moines to conduct a feasibility study for the Neighborhood Business Revitalization Program.

Drake University . . . . **September 1973 – June 1979**

- Taught graduate and undergraduate courses in the economics program. Courses included Managerial Economics (M.B.A. Program), Government Regulation of Business, Public Utilities, and Transportation.
- Served on University Business Affairs Committee for four years; committee chair 1978-79. Faculty advisor, local chapter of Omicron Delta Epsilon (economics honor society) 1973-79.

EDUCATION

Ph.D. (Economics) . . . . Washington State University

Dissertation: "The Returns to Advertising: An Analysis of the Relationship Between Advertising and Liquor Sales in the State of Washington"

M.A. (Economics) . . . . University of Nebraska – Lincoln

B.A. (Economics) . . . . University of Nebraska – Lincoln

PROFESSIONAL ACTIVITIES

Activities and Memberships: Developed and taught an antitrust economics class at the Drake Law School Fall 1981 and taught the macroeconomics class in the Drake M.B.A. program Spring and Fall 1987. Member of the National Association of State Utility Consumer Advocates' Economics and Finance Committee 1990 – 2008 and the NARUC Ad Hoc Committee on Diversification (1986 – 1987).

Regulatory Proceedings in Which Dr. Habr Has Filed Testimony

1. Northwestern Bell Telephone Company (Iowa State Commerce Commission Docket No. RPU-81-40, Direct January 1982), Cost of equity issues.

2. Northwestern Bell Telephone Company (Iowa State Commerce Commission Docket No. RPU-82-49, Direct March 1983), Rate of Return.

3. MCI Telecommunications Corporation (Iowa State Commerce Commission Docket No. RPU-84-2, Direct 1984), Competitiveness of Long Distance Markets.

4. Northwestern Bell Telephone Company (Iowa State Commerce Commission Docket No. RPU-84-7, Direct June 1984), Rate of Return.

5. INVESTIGATION INTO COMPETITION IN COMMUNICATIONS SERVICES AND FACILITIES (Iowa State Commerce Commission Docket No. INU-84-6, October 1984), Workable Competition and Cost Allocation.

6. Peoples Natural Gas Company (Iowa State Commerce Commission Docket No. RPU-84-42, Direct December 1984), Capital Structure.

7. Union Electric Company (Iowa State Commerce Commission Docket No. RPU-85-9, Direct August 1985), Flotation Costs.

8. Iowa Public Service Company -- Gas (Iowa State Commerce Commission Docket No. RPU-85-14, Direct September 1985), Rate of Return.

9. INVESTIGATION INTO COMPETITION IN MTS,WATS, AND PL SERVICES (Iowa State Commerce Commission Docket No. INU-83-3, October 1985), Workable Competition.

10. Iowa Electric Light and Power Company – Gas (Iowa State Commerce Commission Docket No. RPU-85-31, Direct February 1986), Rate of Return.

11. Iowa Electric Light and Power Company – Electric (Iowa Utilities Board Docket No. RPU-86-7, Direct July 1986), Capital Structure.

12. Peoples Natural Gas Company, A Division of Utilicorp United, Inc. (Iowa Utilities Board Docket No. RPU-86-11, Direct September 1986), Rate of Return.

13. Great River Gas Company (Iowa Utilities Board Docket No. RPU-86-12, Direct September 1986), Rate of Return.

14. Iowa Power and Light Company – Electric (Iowa Utilities Board Docket No. RPU-87-2, Direct, June 1987, Rebuttal, October 1987), Capital Structure.

15. Iowa Public Service Company – Gas (Iowa Utilities Board Docket No. RPU-87-3, Direct December 1987), Rate of Return.

16. Iowa Public Service Company – Electric (Iowa Utilities Board Docket No. RPU-87-6, Direct April 1988, Rebuttal August 1988), Rate of Return, Weather Normalization.

17. Iowa Southern Utilities Company and Ottumwa Water Works (Iowa Utilities Board Docket No. AEP-88-1, Direct May 1989, Rebuttal May 1989), Capacity and Energy Rates for a Small Hydro.

18. DEREGULATION OF INTERLATA INTEREXCHANGE MESSAGE TELECOMMUNICATIONS SERVICES (MTS), WIDE AREA TRELECOMMUNICATIONS SERVICE (WATS), CHANNEL SERVICE (PRIVATE LINE), AND CUSTOM NETWORK SERVICE (Iowa Utilities Board Docket No. INU-88-2, September 1988), Strength of Competitive Market Forces.

19. Iowa Southern Utilities Company (Iowa Utilities Board Docket No. RPU-89-7, Direct February 1990, Rebuttal April 1990), Rate of Return.

20. Iowa Electric Light and Power Company – Electric (Iowa Utilities Board Docket No. RPU-89-9, Direct April 1990, Rebuttal May 1990), Cost of Common equity, Double Leverage.

21. Iowa Resources, Inc. and Midwest Energy Company (Iowa Utilities Board Docket No. SPU-90-5, Direct June 1990, Rebuttal June 1990), Utility Holding Company Merger.

22. Iowa Electric Light and Power Company – Gas (Iowa Utilities Board Docket No. RPU-90-7, November 1990), Cost of Common Equity, Double Leverage.

23. Iowa Southern Utilities Company – Electric (Iowa Utilities Board Docket No. RPU-90-8, Direct August 1990, Rebuttal January 1991), Rate of Return.

24. Rochester Telephone Co. et al (Iowa Utilities Board Docket No. SPU-91-3, Direct June 1991, Rebuttal June 1991), Merger Analysis.

25. Midwest Gas, a Division of Iowa Public Service Company (Iowa Utilities Board Docket No. RPU-91-5, Direct October 1995, Rebuttal of Intervenor November 1991, Rebuttal December 1991), Cost of Common Equity, Acquisition Adjustment.

26. Iowa Public Service Company – Electric (Iowa Utilities Board Docket No. RPU-91-6, Direct August 1991, Rebuttal January 1992), Cost of Common Equity.

27. Iowa Southern Utilities Company – Electric (Iowa Utilities Board Docket No. RPU-91-8, Direct September 1991, Rebuttal February 1992, Additional Rebuttal April 1992), Cost of Common Equity.

28. Iowa Electric Light and Power Company – Electric (Iowa Utilities Board Docket No. RPU-91-9, Direct January 1992, Rebuttal of Intervenor February 1992, Rebuttal March 1992), Cost of Common Equity.

29. Iowa Electric Light and Power Company and Union Electric Company (Iowa Utilities Board Docket No. SPU-92-7, Direct April 1992), Asset Purchase Analysis.

30. Iowa Power, Inc. – Electric (Iowa Utilities Board Docket No. RPU-92-2, Direct June 1992, Direct June 1992, Rebuttal of Intervenor July 1992), Cost of Common Equity.

31. Peoples Natural Gas Company, A Division of UtiliCorp United, Inc. (Iowa Utilities Board Docket No. RPU-92-6, Direct August 1992), Cost of Common Equity.

32. Iowa Southern Utilities Company – Gas (Iowa Utilities Board Docket No. RPU-92-8, Direct October 1992), Cost of Common Equity.

33. Iowa Electric Light and Power Company – Gas (Iowa Utilities Board Docket No. RPU-92-9, Direct October 1992, Rebuttal of Intervenor November 1992), Cost of Common Equity.

34. ENERGY POLICY ACT OF 1992 (Iowa Utilities Board Docket No. INU-93-1, Rebuttal July 1993, Surrebuttal, July 1993), Purchase Power and the Cost of Capital, Financial Leverage Used by EWGs.

35. Interstate Power Company (Iowa Utilities Board Docket No. ECR-93-1, Direct September 1993, Rebuttal October 1993), Rate of Return for Unrecovered Energy Efficiency Expenditures, Cost of Capital for Avoided Cost Calculations.

36. Midwest Power Systems (Iowa Utilities Board Docket No. ECT-93-2, Direct November 1993, Rebuttal January 1994), Rate of Return for Unrecovered Energy Efficiency Expenditures, Appropriate Method for Determining the Annualized Recovery of the Expenditures.

37. Interstate Power Company – Electric (Iowa Utilities Board Docket No. RPU-93-6, Direct November 1993, Rebuttal January 1994), Cost of Common Equity.

38. U S West Communications, Inc. (Iowa Utilities Board Docket No. RPU-93-9, Direct August 1993, Rebuttal February 1994), Rate of Return.

39. IES Utilities, Inc. – Electric and Gas (Iowa Utilities Board Docket No. ECR-94-2, Direct October 1994), Rate of Return to Apply to Deferred Unamortized Energy Efficiency Balances.

40. IES Utilities, Inc. – Electric (Iowa Utilities Board Docket No. RPU-94-2, Direct October 1994, Rebuttal of Intervenor, November 1994, Rebuttal December 1994, Rebuttal Related to Duane Arnold Depreciation, January 1995, Supplemental January 1995), Cost of Common Equity, Acquisition Adjustment, Economic Depreciation for Duane Arnold, Decommissioning Expenditures for Duane Arnold.

41. Midwest Gas (Iowa Utilities Board Docket No. RPU-94-3, Direct November 1994, Rebuttal of Intervenor, December 1994, Rebuttal January 1995), Cost of Common Equity.

42. Midwest Power (Iowa Utilities Board Docket No. RPU-94-4, Direct January 1995, Rebuttal of Intervenor January 1995, Rebuttal March 1995), Cost of Common Equity.

43. Iowa-Illinois Gas & Electric –Gas (Iowa Utilities Board Docket No. TF-94-640, Direct February 1995), Proper Policy for Rates That are Less Than Full Cost.

44. MidAmerican Energy Company (Iowa Utilities Board Docket No. P-831, Direct July 1995), Cost/Benefit Analysis of Proposed Pipeline.

45. Midwest Wind Developers v. Iowa Electric Light and Power Company et al; and Windustries, Inc. v. Iowa Electric Light and Power Company et. al (Iowa Utilities Board Docket No. AEP-95-1 thru 4, Direct September 1995, Rebuttal December 1995), Develop Appropriate kW and kWh rates.

46. Windustries, Inc. v. MidAmerican Energy Company (Iowa Utilities Board Docket No. AEP-95-5, Direct November 1995, Rebuttal December 1995), Develop Appropriate kW and kWh rates.

47. McLeod Telemanagement v. U S WEST Communications, Inc. (Iowa Utilities Board Docket No. FCU-96-1/FCU-96-3, Direct April 1996), Competitive Impact of Not Offering Centrex Plus to New Customers.

48. MidAmerican Energy Company – Electric (Iowa Utilities Board Docket No. RPU-96-8, Direct August 1996, Rebuttal November 1996), Cost of Common Equity.

49. Lost Nation-Elwood Telephone Company (Iowa Utilities Board Docket No. TCU-96-9, Direct August 1996), Facilities Based Competition.

50. GTE Midwest Incorporated (Iowa Utilities Board Docket No. RPU-96-6, Direct September 1996), Proper Cost Recovery for intraLATA Equal Access.

51. MidAmerican Energy Company (Iowa Utilities Board Docket No. APP-96-1, Direct September 1996, Rebuttal November 1996), Causes of High Payout Ratio and Stranded Costs.

52. South Slope Cooperative Telephone Company (Iowa Utilities Board Docket No. TCU-96-12, Direct September 1996), Facilities Based Competition.

53. IES Utilities (Iowa Utilities Board Docket No. ECR-96-3, Direct February 1997), Pretax Return for Levelized Recovery of Deferred Energy Efficiency Expenditures.

54. U S WEST Communications, Inc. (Iowa Utilities Board Docket No. RPU-96-9, Direct April 1997, Rebuttal July 1997), Rate of Return.

55. MidAmerican Energy Company – Electric (Iowa Utilities Board Docket No. TF-97-229, Direct October 1997), Can Other Utility Companies be Forced to Join a Pilot Project.

56. CalEnergy Company and MidAmerican Energy Holdings Company (Iowa Utilities Board Docket No. SPU-98-8, Direct November 1998, Rebuttal December 1998), Merger Analysis.

57. MidAmerican Energy Holdings Company, MidAmerican Energy Company, Teton Formation L.L.C., and Teton Acquisition Corporation (Iowa Utilities Board Docket No. SPU-99-32, Direct January 2000), Merger Analysis.

58. Qwest Corporation (Iowa Utilities Board Docket No. TF-00-250, Direct February 2001), Price Plan Review.

59. MidAmerican Energy Company – Electric (Iowa Utilities Board Docket No. RPU-01-9, Direct February 2002), Implicit Excess Return on Common Equity.

60. Interstate Power Company – Electric (Iowa Utilities Board Docket No. RPU-02-3, Direct July 2002, Rebuttal of Intervenor August 2002, Rebuttal November 2002), Cost of Common Equity, Duane Arnold Decommissioning Cost, Nature and Purpose of Test Year.

61. Iowa Telecommunications Services, Inc. d/b/a Iowa Telecom (Iowa Utilities Board Docket No. RPU-02-4, Direct August 2002), Appropriateness of Using Forward Looking Cost Models to Establish Retail Rates.

62. Aquila, Inc. d/b/a Aquila Networks (Iowa Utilities Board Docket No. RPU-02-5, Direct September 2002, Rebuttal November 2002), Cost of Common Equity.

63. Interstate Power and Light Company – Gas (Iowa Utilities Board Docket No. RPU-02-7, Direct October 2002, Rebuttal of Intervenor November 2002, Rebuttal January 2003), Cost of Common Equity.

64. MidAmerican Energy Company – Electric (Iowa Utilities Board Docket No. RPU-02-10, Direct March 2003), Cost of Common Equity Issues.

65. Iowa Telecommunications Services, Inc. d/b/a Iowa Telecom (Iowa Utilities Board Docket No. SPU-04-10, Direct May 2006), Analysis of Proposed Initial Public Offering.

66. Qwest Communications Corporation (Iowa Utilities Board Docket No. TCU-03-13, Rebuttal August 2004), Appropriateness of a Telecommunications Company Competing with an Affiliate.

67. Interstate Power and Light Company and FPL Energy Duane Arnold, LLC (Iowa Utilities Board Docket No. SPU-05-15, Direct September 2005, Rebuttal October 2005), Analysis of Proposed Sale of Nuclear Power Plant.

68. Interstate Power and Light Company and ITC Midwest, LLC (Iowa Utilities Board Docket No. SPU-07-11, Direct June 2007, Rebuttal July 2007), Analysis of Proposed Sale of Electric Transmission System.

69. Interstate Power and Light Company (Iowa Utilities Board Docket No. RPU-08-1, Rebuttal October 2008, Additional Supplemental October 2008), Energy Forecast Analysis.

70. Interstate Power and Light Company (Iowa Utilities Board Docket No. RPU-2009-0002, Direct July 2009, Rebuttal September 2009), Impact of Strategic Decisions on Efficiency of Utility Operations.

71. Bangor Hydro Electric Company, Maine Public Service Company, et. al (Maine Public Utilities Commission Docket No. 2010-89, Direct June 2010, Surrebuttal August 2010), Analysis of the Impact of Proposed Merger on Retail Customers.

72. FirstEnergy Corporation and Allegheny Energy, Inc. (Maryland Public Service Commission Case No. 9233, Direct October 2010, Surrebuttal November 2010), Analysis of the Impact of Proposed Merger on Retail Customers.

73. Bangor Gas Company and Maine Public Service Company (Maine Public Utilities Commission Docket No. 2013-00443, Direct March 2014), Rate of Return.

74. Columbia Gas Maryland, Inc. (Maryland Public Service Commission Case No. 9417, Direct June 2016, Rebuttal and Surrebuttal July 2016), Rate of Return.

PHILADELPHIA GAS WORKS

CHANGE IN OTHER ASSETS AND LIABILITIES SHOWN ON JFG-1, PAGE 2, LINE 5

(DOLLARS IN THOUSANDS)

	2014 Actual	2015 Actual	2016 HTY	2017 FTY	2018 FPFTY	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
OTHER ASSETS									
Restricted Capital Expenditures	10,000	-	-	-	-	-	-	-	-
I & D Reserve - Suits & Claims	3,122	4,228	2,107	6,637	6,678	6,719	6,738	6,734	6,728
I & D Reserve - Workers Compensation	2,093	2,273	3,079	2,713	2,728	2,745	2,752	2,751	2,748
Deferred Debit - Marketing Incentive Program	1,151	778	530	804	808	812	816	820	824
Main & Service Installation Reimbursement	1,944	352	322	362	364	366	368	370	372
Long Term Portion Deferred Operating Expenses	-	406	326	761	163	81	-	-	-
Deferred Environmental	29,217	29,609	28,425	28,767	28,767	26,722	25,026	24,099	23,102
Deferred Pension Outflows	46,131	78,129	88,043	41,908	13,953	-	-	-	-
Deferred Debit - Interest Rate Swap	18,879	20,948	14,763	28,443	29,863	31,284	32,704	34,124	35,544
Unamortized Loss 6th Series Interest Rate Swap	9,807	6,518	3,229	-	-	-	-	-	-
Total	**122,344**	**143,241**	**140,824**	**110,395**	**83,324**	**68,729**	**68,404**	**68,898**	**69,318**
Change Other Assets		**(20,897)**	**2,417**	**30,429**	**27,071**	**14,595**	**325**	**(494)**	**(420)**

OTHER LIABILITIES									
I & D Reserve - Suits & Claims	2,093	2,273	3,079	2,713	2,728	2,745	2,752	2,751	2,748
I & D Reserve - Workers Compensation	3,122	4,228	2,107	6,637	6,678	6,719	6,738	6,734	6,728
Environmental Remediation	33,500	32,474	31,186	30,120	26,722	25,026	24,099	23,102	22,105
Other Post Employment Benefits	101,788	90,014	81,443	330,763	307,142	278,946	245,759	206,943	161,786
Deferred Credit - Interest Rate Swap	38,762	39,411	31,806	44,065	44,065	44,065	44,065	44,065	44,065
Deferred Pension Inflow	31,808	11,653	-	-	-	2,813	11,121	12,291	12,302
Net Pension Liability	164,256	239,869	296,093	291,253	285,870	280,051	274,416	267,534	260,380
Total	**375,329**	**419,922**	**445,714**	**705,551**	**673,205**	**640,365**	**608,950**	**563,420**	**510,114**
Less City Equity Adjustment (Resulting from GASB 75)	-	-	-	261,188	-	-	-	-	-
Change Other Liabilities		**44,593**	**25,792**	**(1,351)**	**(32,346)**	**(32,840)**	**(31,415)**	**(45,530)**	**(53,306)**

Increased/(Decreased) Other Assets/Liabilities		**23,696**	**28,209**	**29,078**	**(5,275)**	**(18,245)**	**(31,090)**	**(46,024)**	**(53,726)**

		2018 FPFTY - 2017 FTY	**2019 Forecast - 2018 FPFTY**	**2020 Forecast - 2019 Forecast**	**2020 Forecast - 2019 Forecast**	**2020 Forecast - 2019 Forecast**
Habr Calculated Other Post Employment Benefits Reduction in Cash Flow		(23,621)	(28,196)	(33,187)	(38,816)	(45,157)
Habr Calculated Net Increase In Other Post Employment Benefits Liability	249,320					

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EXHIBIT
R-2017 2586783
OCA DSH-2
6-28-17 EP PHL

INCREASE IN NET POSITION (CITY EQUITY) ACCOMPANYING $70 RATE INCREASE

	FTY 2016/17		FPFTY 2017/18		Forecast 2018/19		Forecast 2019/20		Forcast 2020/21		Forcast 2021/22	
	Amount	Ratio	Amount	Ratio	Amount	Ratio	Amount	Ratio	Amount	Ratio	Amount	Ratio
Long-Term Debt	$1,150,833	97.42%	$1,089,686	91.00%	$1,033,277	84.19%	$1,142,448	80.60%	$1,091,176	74.67%	$1,027,021	68.69%
Net Position	$30,427	2.58%	$107,814	9.00%	$194,003	15.81%	$274,939	19.40%	$370,128	25.33%	$468,199	31.31%
Total	$1,181,260	100.00%	$1,197,500	100.00%	$1,227,280	100.00%	$1,417,387	100.00%	$1,461,304	100.00%	$1,495,220	100.00%
Year-to-Year Increase in Net Position			**$77,387**		**$86,189**		**$80,936**		**$95,189**		**$98,071**	

Source: Mr. Golden's Exhibit JFG-2, page 4.

EXHIBIT
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R-2017 2586783
OCA - DSH-3
6-28-17 EP PHL

Funds in Excess of Debt Service

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Funds Available for Debt Service	$165,875	$176,873	$175,817	$168,189	$150,867	$186,095	$189,092	$182,462	$146,498	$130,680
Total Debt Service	$77,867	$97,043	$98,341	$77,831	$99,628	$104,953	$97,182	$104,872	$88,789	$84,957
Debt Service Ratio	2.13	1.82	1.79	2.16	1.51	1.77	1.95	1.74	1.65	1.54
Remaining Funds	$88,008	$79,830	$77,476	$90,358	$51,239	$81,142	$91,910	$77,590	$57,709	$45,723

Source: Philadelphia Gas Works 2016 *Comprhensive Annual Financial Report,* pp. 92 - 93.

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R-2017-2586783
OCA-DSH-4
6-28-17 EP PHL

PHILADELPHIA GAS WORKS
FY 2017 THROUGH FY 2022 DEBT SERVICE SCHEDULE

	FTY 2016-17	FPFTY 2017-18	Forecast 2018-19	Forecast 2019-20	Forecast 2020-21	Forecast 2021-22
INTEREST						
5th Series A-2 Variable [1]	600,000	600,000	600,000	600,000	600,000	600,000
7th Series Fixed - New Bond Issuance	230,750	115,375	-	-	-	-
7th Series Fixed - Refunding	521,375	364,625	205,250	151,250	151,250	151,250
8th Series A Fixed - Refund 6th Series Bond Issue	411,600	-	-	-	-	-
8th Series B Variable - Refund 6th Series Bond Issue	1,005,711	1,005,711	1,005,711	1,005,711	1,005,711	1,005,711
8th Series C Variable - Refund 6th Series Bond Issue	1,000,383	1,000,383	1,000,383	1,000,383	1,000,383	1,000,383
8th Series D Variable - Refund 6th Series Bond Issue	1,500,850	1,500,850	1,500,850	1,500,850	1,500,850	1,500,850
8th Series E Variable - Refund 6th Series Bond Issue	1,005,711	1,005,711	1,005,711	1,005,711	1,005,711	1,005,711
9th Series Fixed - New Bond Issuance	3,376,350	3,376,350	3,240,775	3,061,775	2,874,025	2,716,225
10th Series Fixed - Refunding	1,608,294	1,372,494	1,103,244	864,994	644,494	499,706
13th Series Fixed - Refunding	11,920,050	11,197,050	10,506,250	9,684,500	8,898,500	7,917,000
14th Series Fixed - Refunding	8,896,995	14,847,325	14,063,825	12,990,450	11,834,950	10,706,700
Sub-Total Interest Payments	**$ 32,078,067**	**$ 36,385,872**	**$ 34,231,997**	**$ 31,865,622**	**$ 29,515,872**	**$ 27,103,535**
2017 New Bond Issuance - $270MM [3]	-	13,500,000	13,296,806	13,086,452	12,859,430	12,624,207
2020 New Bond Issuance - $180MM [4]	-	-	-	-	9,000,000	8,864,537
Total Interest Payments	**$ 32,078,067**	**$ 49,885,872**	**$ 47,528,803**	**$ 44,952,074**	**$ 51,375,302**	**$ 48,592,279**
PRINCIPAL						
7th Series Fixed - New Bond Issuance	-	4,615,000	-	-	-	-
7th Series Fixed - Refunding	-	4,110,000	4,320,000	-	-	-
8th Series A Fixed - Refund 6th Series Bond Issue	7,840,000	-	-	-	-	-
9th Series Fixed - New Bond Issuance	-	3,445,000	3,580,000	3,755,000	3,945,000	4,105,000
10th Series Fixed - Refunding	5,895,000	5,385,000	750,000	4,410,000	1,415,000	3,285,000
13th Series Fixed - Refunding	18,075,000	17,270,000	16,435,000	15,720,000	19,630,000	19,125,000
14th Series Fixed - Refunding	2,980,000	12,945,000	18,395,000	24,540,000	11,680,000 [2]	23,450,000
Sub-Total Principal Payments	**$ 34,790,000**	**$ 47,770,000**	**$ 43,480,000**	**$ 48,425,000**	**$ 36,670,000**	**$ 49,965,000**
2017 New Bond Issuance - $270MM [3]	-	4,063,887	4,267,082	4,480,435	4,704,458	4,939,681
2020 New Bond Issuance - $180MM [4]	-	-	-	-	2,709,258	2,844,721
Total Principal Payments	**$ 34,790,000**	**$ 51,833,887**	**$ 47,747,082**	**$ 52,905,435**	**$ 44,083,716**	**$ 57,749,402**
Total Debt Service Payments	**$ 66,868,067**	**$ 101,719,759**	**$ 95,275,885**	**$ 97,857,509**	**$ 95,459,018**	**$ 106,341,681**

[1] Interest on the 5th Series A-2 variable rate bonds was calculated at 2.0%; whereas, the Official Statement for the 14th Series Revenue Bonds assumed interest of 0.50%.

[2] PGW projected to defeased approximately $10.0MM of debt service payments payable in FY 2021. This defeasance was not included as part of the Official Statement for the 14th Series Revenue Bonds.

[3] PGW projected a $270.0MM new money issuance in FY 2017. This projected new money issue was not included as a component of this particular schedule in the Official Statement which only referenced outstanding debt as of the bond sale date, not projected debt issuances.

[4] PGW projected a $180.0MM new money issuance in FY 2020. This projected new money issue was not included as a component of this particular schedule in the Official Statement which only referenced outstanding debt as of the bond sale date, not projected debt issuances.

Initial Principal	Annual Interest Rate	Loan Term in Years
$270,000	5.00%	30

Payment Number	Total Payment	Interest	Principal Payment	Principal
1	$17,563.89	$13,500.00	$4,063.89	$265,936.11
2	$17,563.89	$13,296.81	$4,267.08	$261,669.03
3	$17,563.89	$13,083.45	$4,480.44	$257,188.59
4	$17,563.89	$12,859.43	$4,704.46	$252,484.14
5	$17,563.89	$12,624.21	$4,939.68	$247,544.46
6	$17,563.89	$12,377.22	$5,186.66	$242,357.79
7	$17,563.89	$12,117.89	$5,446.00	$236,911.79
8	$17,563.89	$11,845.59	$5,718.30	$231,193.50
9	$17,563.89	$11,559.67	$6,004.21	$225,189.28
10	$17,563.89	$11,259.46	$6,304.42	$218,884.86
11	$17,563.89	$10,944.24	$6,619.64	$212,265.22
12	$17,563.89	$10,613.26	$6,950.63	$205,314.59
13	$17,563.89	$10,265.73	$7,298.16	$198,016.43
14	$17,563.89	$9,900.82	$7,663.07	$190,353.36
15	$17,563.89	$9,517.67	$8,046.22	$182,307.15
16	$17,563.89	$9,115.36	$8,448.53	$173,858.62
17	$17,563.89	$8,692.93	$8,870.96	$164,987.66
18	$17,563.89	$8,249.38	$9,314.50	$155,673.15
19	$17,563.89	$7,783.66	$9,780.23	$145,892.92
20	$17,563.89	$7,294.65	$10,269.24	$135,623.68
21	$17,563.89	$6,781.18	$10,782.70	$124,840.98
22	$17,563.89	$6,242.05	$11,321.84	$113,519.14
23	$17,563.89	$5,675.96	$11,887.93	$101,631.21
24	$17,563.89	$5,081.56	$12,482.33	$89,148.88
25	$17,563.89	$4,457.44	$13,106.44	$76,042.44
26	$17,563.89	$3,802.12	$13,761.77	$62,280.68
27	$17,563.89	$3,114.03	$14,449.85	$47,830.82
28	$17,563.89	$2,391.54	$15,172.35	$32,658.48
29	$17,563.89	$1,632.92	$15,930.96	$16,727.51
30	$17,563.89	$836.38	$16,727.51	$0.00

MATURITY SCHEDULE

$312,425,000
CITY OF PHILADELPHIA, PENNSYLVANIA
GAS WORKS REVENUE REFUNDING BONDS
FOURTEENTH SERIES
(1998 GENERAL ORDINANCE)

Due (October 1)	Amount ($)	Rate (%)	Price	Yield (%)	CUSIP No.†
2016	2,980,000	2.000	100.120	0.590	7178237T9
2017	12,945,000	5.000	104.543	0.790	7178237U6
2018	18,395,000	5.000	108.453	0.900	7178237V4
2019	24,540,000	5.000	111.995	1.040	7178237W2
2020	21,680,000	5.000	115.150	1.190	7178237X0
2021	23,450,000	5.000	117.881	1.350	7178237Y8
2022	25,275,000	5.000	120.219	1.510	7178237Z5
2023	8,865,000	5.000	121.866	1.710	7178238A9
2024	11,510,000	5.000	123.555	1.850	7178238B7
2025	12,140,000	5.000	125.093	1.970	7178238C5
2026	12,755,000	5.000	126.650	2.060	7178238D3
2027	12,055,000	5.000	125.716*	2.150*	7178238E1
2028	12,670,000	5.000	124.893*	2.230*	7178238F8
2029	13,325,000	5.000	124.179*	2.300*	7178238G6
2030	14,005,000	5.000	123.671*	2.350*	7178238H4
2031	14,725,000	5.000	123.166*	2.400*	7178238J0
2032	15,480,000	5.000	122.764*	2.440*	7178238K7
2033	16,280,000	5.000	122.463*	2.470*	7178238L5
2034	9,220,000	5.000	121.964*	2.520*	7178238M3
2035	9,645,000	4.000	110.294*	2.820*	7178238N1
2036	10,040,000	4.000	109.925*	2.860*	7178238P6
2037	10,445,000	4.000	109.741*	2.880*	7178238Q4

* Price and yield calculated to the first optional call date of October 1, 2026 at par.

† CUSIP is a registered trademark of American Bankers Association (the "ABA"). CUSIP data is provided by CUSIP Global Services, which is managed on behalf of the ABA by S&P Global Market Intelligence, a part of S&P Global Inc. The CUSIP numbers listed above are being provided solely for the convenience of Bondholders of the Bonds only at the time of original issuance of the Bonds and the City, the Philadelphia Gas Works and the Underwriters do not make any representation with respect to such CUSIP numbers or undertake any responsibility for their accuracy now or at any time in the future. The CUSIP number for a specific maturity is subject to being changed after the issuance of such Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of such maturity of the Bonds.

OCA AND HISTORICAL DAYS OF CASH ($000's)

	FY2010/11	FY2011/12	FY2012/13	FY2013/14	FY2014/15	FY2015/16	OCA FPFTY 2017/18
Total Cash Operating Expenses	$593,786	$502,719	$525,908	$587,904	$531,991	$427,898	$475,430
Days in year	365	366	365	365	365	366	365
Cash Expenses per Day	$1,627	$1,374	$1,441	$1,611	$1,458	$1,169	$1,303
End-of-Year Cash	$105,386	$75,826	$100,933	$105,734	$114,327	$91,743	$82,529
EOY Days of Cash	64.8	55.2	70.1	65.6	78.4	78.5	63.4
Average Historical Days of Cash							68.8

Sources: *Official Statement*, $312,425,000 14th Series Bond Issue, p. 63, Exhibit JFG-1, p. 3, and OCA Exhibits AEE-2 and AEE-3.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, David S. Habr, hereby state that the facts above set forth in my Direct Testimony, OCA Statement No. 2, are true and correct and that I expect 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).

Signature: David S. Habr
David S. Habr

Consultant Address: David S. Habr
Habr Economics
213 Cornuta Way
Nipomo, CA 99344-5020

DATED: May 16, 2017
233092.docx

OCA Statement No. 2-S

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

SURREBUTTAL TESTIMONY OF

DR. DAVID S. HABR

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

June 22, 2017

Q: Please state your name and business address.

A: David S. Habr, 213 Cornuta Way, Nipomo, CA.

Q: Are you the same David S. Habr who previously filed direct testimony in this proceeding?

A: Yes, I am.

Q: What is the purpose of your surrebuttal testimony?

A: I will respond to comments in the rebuttal testimonies of Messrs. Golden, Graves, and Hartman concerning my direct testimony.

Q: Have you prepared any exhibits to accompany your surrebuttal testimony?

A: Yes, I have prepared Exhibit DSH-1SR. This Exhibit shows the 14th Series Original Issue Premium and the principal amount of the 14th Series bonds.

Q: Turning to Mr. Golden's rebuttal testimony, do you agree with Mr. Golden's debt service coverage ratio discussion beginning at page 9, line 9 and continuing through page 11, line 3?

A: No, I do not. Specifically, I disagree that the fees itemized on page 10, lines 5 – 7, should be included in FPFTY 2017/18. I also disagree that the *proposed* $57,010,000 customer financed CAPX spending should be treated as a fixed obligation.

Q: Beginning with the itemized fees, why should they not be included in FPFTY 2017/18?

A: Mr. Gordon's Exhibit JFG-1accompanying his direct testimony at page 2 shows the $71 million outstanding short-term debt used to finance construction being paid off in FTY2016/17 with proceeds from the anticipated $270 million August 2017 debt issue. This same payment schedule is shown on page 2 of Exhibits JFG-1-A and JFG-2-A accompanying his rebuttal testimony. As such, any fees[1] associated with the extinguishment of the $71 million in short-term debt belong in FY2016/17, not FY2017/18.

Q: What treatment do you recommend for customer contributed CAPX?

A: PGW has plans to issue $270 million of debt in August 2017 and an additional $180 million of debt in FY2019/20. The drawdown of the $270 million issue funds should be scheduled so that these funds are exhausted when the $180 million of additional debt is issued. The idle time for these debt funds should be minimized given that the interest cost will be included in the new rates. Customer contributed capital can be used to fill the gap between annual drawdown of debt funds and planned CAPX.

Based on the annual drawdown of funds from the upcoming $270 million principal debt issue shown on page 2 of Mr. Golden's Exhibit JKG-1-A, only $245 million[2] will be drawn down by FY2019/20 when the additional $180 in debt is expected to be issued. Thus, there is at least another $25 million (= $270 - $245) of the $270 issue that could be used to fund CAPX during FY2017/18 and FY2018/19 thereby reducing the need for internally generated funds.

Q: Why did you say "at least another $25 million?"

[1] Golden rebuttal testimony, page 10, line 8 shows fees totaling $3,634,000.
[2] $136, $52, and $57 million for FY2016/17, 2017/18, and 2018/19 respectively.

A: Based on the 14th Series issue, I expect the $270 debt issue will have a significant issuance premium that will also be available to support CAPX in addition to the principal proceeds. Exhibit DSH-1SR shows a 14th Series original issue premium of $57,188,109. This premium is 18.3% (=$57,188,109 ÷ $312,425,000) of the principal amount of the issue. Thus, the $270 million debt issue could generate up to an additional $49.4 million (=$312,425,000 x 0.183) in premium proceeds before reduction for issuance expenses. These funds are also available to support CAPX in FY 2017/18 and 2018/19 thereby further reducing the need for internally generated funds.

Q: Will using these extra funds to support CAPX in FY2017/18 and FY2018/19 increase PGW's debt ratio?

A: No. PGW's debt ratio will increase when the bonds are issued but the timing of the use of the proceeds has no impact on PGW's debt ratio.

Q: With respect to the $270 million anticipated debt issue, did you make any adjustments to Mr. Golden's $101,720,000 total debt service requirement?

A: No. Although, it appears that Mr. Golden's $4,063,887 test-year principal payment provided in response to OCA Set XV, question 1, for the anticipated $270 million debt issue is incorrect because bonds are only issued in $1,000 increments.

Q: Turning now to Mr. Graves' rebuttal testimony, do you agree with Mr. Graves' statement at page 2, lines 2 – 4, that you do "not offer a basis for

[your] recommendation grounded in the operating or financial risks of the Company?"

A: No, I do not agree with Mr. Graves. I covered these topics in my direct testimony at page 6, lines 9 – 17 and page 7, lines 10 – 19, wherein I discuss PGW's operating history, the operating stability reflected in Mr. Golden's forecasts, and my goal of providing PGW the opportunity to support its credit rating.

Q: With respect to Mr. Hartman's rebuttal testimony, do you agree with his statement on page 2, beginning at line 3 that "at no point [do you] identify the rating level or other key financial metric that [your] proposed 1.85x debt coverage ratio is intended to produce?"

A: No, I do not agree with Mr. Hartman. At page 7, lines 17 – 19 of my direct testimony I indicate that my goal was to develop a debt service coverage ratio that provides PGW the opportunity to support its credit rating. My 1.85x debt service coverage ratio meets this standard.

Q: Do you agree with Mr. Hartman's statement on page 3, lines 2 – 3 of his rebuttal testimony that "the rate increase requested [$70 million] is necessary to assure that its present bond rating <u>is maintained</u>?"

A: No, I do not agree with Mr. Hartman's statement. In its August 10, 2016 ratings increase, A- to A, announcement S&P observed that:

> PGW estimates 2016 coverage at 1.77x, and projects coverages ranging from 1.8x to 2.0x through 2021, levels we consider strong. Although these projections assume PAPUC approval of PGW's expected $40 million base-rate increase request for fiscal 2018, *we believe coverage levels will continue to support the*

> *higher rating even if the utility does not receive full approval of its rate request.*[3] (Emphasis added.)

To me this suggests that a $70 million rate increase is not necessary to assure that the S&P "A" rating is maintained.

Q: Do you agree with Mr. Hartman's contention beginning at page 3, line 23 and continuing to page 4, line 1 that your 1.85x debt coverage level would force PGW to use too much additional debt?

A: No, I do not. As I noted in my response to Mr. Golden's rebuttal testimony, page 2 of Mr. Golden's Exhibits JFG-1, JFG-1-A, and JFG-2-A have PGW drawing down $245 million of the $270 million through FY2019. The remaining $25 million plus an original issue premium of up to $49.4 million are available to support CAPX during that period eliminating any need to issue unplanned additional debt.

Q: Does this conclude your surrebuttal testimony?

A: Yes. I reserve the right to supplement this testimony should additional information become available.

236076

[3] This S&P document is part of Mr. Golden's Exhibit JFG-3 that accompanied his direct testimony.

OCA Statement No. 2-S

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

EXHIBIT ACCOMPANYING THE

SURREBUTTAL TESTIMONY OF

DR. DAVID S. HABR

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

June 22, 2017

When referred to individually, each Series of City of Philadelphia, Pennsylvania Gas Works Revenue Bonds (1998 General Ordinance) is referred to by its numerical designation, followed by the words "Series Bonds."

PLAN OF FINANCE AND ESTIMATED SOURCES AND USES OF FUNDS

Plan of Finance

The proceeds of the Bonds, together with other available moneys, will be used to (i) redeem, refund or defease a portion of the Refunded Bonds, (ii) make termination payments with respect to a portion of the swap agreements associated with the Eighth Series B, C, D and E Bonds, and (iii) pay the costs of issuing the Bonds. Such termination payments will reduce the notional amount of each swap agreement. See Table 1 under "SECURITY AND SOURCES OF PAYMENT FOR THE 1998 ORDINANCE BONDS – **Qualified Swaps and Exchange Agreements.**"

The refunding of the Refunded Bonds will result in debt service savings to the City.

Estimated Sources and Uses of Funds

The sources and uses of funds are estimated to be as follows:

Estimated Sources:	
Principal Amount of the Bonds	$312,425,000.00
Original Issue Premium	57,188,109.40
Moneys Released from the Sinking Fund Reserve	4,132,666.46
Other Available Moneys	16,165,831.12
Total Sources	**$389,911,606.98**
Estimated Uses:	
Redemption or Defeasance of Refunded Bonds	$373,632,013.87
Swap Termination Payments	13,893,000.00
Costs of Issuance[*]	2,386,593.11
Total Uses	**$389,911,606.98**

[*] Includes the fees and expenses of various counsel and the Fiscal Agent, consultant's fees, fees of accountants, fees of financial advisors, rating agency fees, printing and publication costs, contingency, Underwriters' discount, and other expenses related to the issuance of the Bonds.

Simultaneously with the issuance of the Bonds, PGW, utilizing available moneys provided by it, will also defease a portion of the Seventh Series Bonds and the Ninth Series Bonds.

Verification

GNP Services (the "Verification Agent") will deliver to the City and PGW, on or before the date of the delivery of the Bonds, its report (the "Verification Report") indicating that it has verified the mathematical accuracy of the information provided by the City, PGW, and their representatives with respect to the refunding requirements of the Refunded Bonds. Included within the scope of its engagement will be a verification of (a) the mathematical accuracy of the computations of the adequacy of the cash and maturing principal of the securities to be placed in an escrow account to meet the scheduled payment of interest on the Refunded Bonds until redemption and the payment of the redemption price of the Refunded Bonds on the date fixed for the redemption; and (b) the mathematical accuracy of the computations supporting the conclusion of Co-Bond Counsel that the Bonds are not "arbitrage bonds" under the Code and the regulations promulgated thereunder.

Source: Official Statement, Gas Works Refunding Bonds, Fourteenth Series. Included in Volume I (Part 1 of 3) Filing Requirements, page 164.

EXHIBIT
R-2017-2586783
OCA-DSH 1SR
6-28-17 PHL

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, David S. Habr, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement No. 2-S, are true and correct and that I expect 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).

Signature: David S. Habr
David S. Habr

Consultant Address: David S. Habr
Habr Economics
213 Cornuta Way
Nipomo, CA 99344-5020

DATED: June 22, 2017
235892.doc

OCA STATEMENT NO. 3

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

DIRECT TESTIMONY

OF

JEROME D. MIERZWA

ON BEHALF OF THE

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

EXETER
ASSOCIATES, INC.
10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

EXHIBIT
R-2017-2586783
OCA statement No. 3
6-28-17EP PAR
PENGAD 800-631-6989

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I. INTRODUCTION

Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?

A. My name is Jerome D. Mierzwa. I am a Principal and Vice President of Exeter Associates, Inc. ("Exeter"). My business address is 10480 Little Patuxent Parkway, Suite 300, Columbia, Maryland 21044. Exeter specializes in providing public utility-related consulting services.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I graduated from Canisius College in Buffalo, New York in 1981 with a Bachelor of Science Degree in Marketing. In 1985, I received a Master's Degree in Business Administration with a concentration in finance, also from Canisius College. In July 1986, I joined National Fuel Gas Distribution Corporation ("NFGD") as a Management Trainee in the Research and Statistical Services ("RSS") Department. I was promoted to Supervisor RSS in January 1987. While employed with NFGD, I conducted various financial and statistical analyses related to the company's market research activity and state regulatory affairs. In April 1987, as part of a corporate reorganization, I was transferred to National Fuel Gas Supply Corporation's (NFG Supply's) rate department where my responsibilities included utility cost-of-service and rate design analysis, expense and revenue requirement forecasting, and activities related to federal regulation. I was also responsible for preparing NFG Supply's Purchased Gas Adjustment ("PGA") filings and developing interstate pipeline and spot market supply gas price projections. These forecasts were utilized for internal planning purposes as well as in NFGD's 1307(f) proceedings.

In April 1990, I accepted a position as a Utility Analyst with Exeter. In December 1992, I was promoted to Senior Regulatory Analyst. Effective April 1996, I became a Principal of Exeter. Since joining Exeter, I have specialized in evaluating the gas purchasing practices and policies of natural gas utilities, utility class cost-of-service and rate design analyses, sales and rate forecasting, performance-based incentive regulation, revenue requirement analysis, the unbundling of utility services, and evaluation of natural gas customer choice transportation programs.

Q. HAVE YOU PREVIOUSLY TESTIFIED ON UTILITY RATES IN REGULATORY PROCEEDINGS?

A. Yes. I have provided testimony on more than 200 occasions in proceedings before the Federal Energy Regulatory Commission ("FERC"), utility regulatory commissions in Delaware, Georgia, Illinois, Indiana, Louisiana, Maine, Massachusetts, Montana, Nevada, New Jersey, Ohio, Rhode Island, Texas, Utah, and Virginia, as well as before the Pennsylvania Public Utility Commission ("Commission").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. On February 27, 2017, Philadelphia Gas Works ("PGW" or "Company") filed an application with the Commission to increase its distribution base rates by $70.0 million, or 14.2 percent. Exeter was retained by the Pennsylvania Office of Consumer Advocate ("OCA") to review the class cost-of-service study ("CCOSS") and rate design proposals included in PGW's application, as well as several negotiated rate and pilot programs proposals. My testimony addresses PGW's CCOSS and rate design proposals, as well as PGW's proposed negotiated rate and pilot programs.

Q. HAVE YOU PREPARED EXHIBITS TO ACCOMPANY YOUR TESTIMONY?

A. Yes, I have. Schedule JDM-1 is attached to my direct testimony.

Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.

A. Based on the results of my review and analysis, I have reached the following conclusions:

- Typical of a natural gas distribution company ("NGDC"), a significant percentage of PGW's plant, over 35 percent, is comprised of distribution mains.

- The CCOSS sponsored by PGW in this proceeding uses the Customer/Demand methodology. Under this method, distribution mains investment is allocated to each customer class partially based on the number of customers and partially based on design day demands.

- The Company's Customer/Demand methodology misallocates distribution mains plant investment and related investment and costs, and this method produces results that do not reasonably reveal an accurate indication of class-allocated cost responsibilities and should be rejected.

- The Peak & Average Study that I present in my testimony reflects an allocation of distribution mains investment and related costs which is more consistent with cost of service principles.

- PGW's proposed revenue distribution, based on its Customer/Demand CCOSS, is not reasonably allocated among its customer classes.

- The revenue distribution in this proceeding should be guided by the results of the OCA's Peak & Average Study.

- PGW's proposed increase in the Residential monthly customer service charge is unreasonable and should be rejected.

- PGW is proposing to begin negotiating rates for Interruptible Transportation ("IT") service in three years. I find no justification for such an extended delay and recommend that PGW begin implementing its proposal one-year after the Commission's approval.

- PGW's proposal to negotiate the rates that would be applicable under Rate Back-Up Service ("BUS") should not be approved as proposed.
- PGW's proposed Pilot Technology and Development Rider ("TED Rider") and Pilot Micro-Combined Heat and Power ("Micro-CHP") Incentive Program should each be approved for three years subject to the reporting requirements discussed herein.

Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

A. Following this introductory section, my testimony is divided into five additional sections. In the following section, I detail the reasons that support a finding that PGW's Customer/Demand CCOSS produces an inaccurate indication of the allocated costs of serving the various customer classes. The next section addresses the distribution of the revenue increase authorized by the Commission in this proceeding. The third additional section of my testimony addresses PGW's rate design proposals. Next, I describe PGW's negotiated rate proposals. The final section of my testimony addresses PGW's Pilot TED Rider and Micro-CHP Incentive Program.

II. CLASS COST-OF-SERVICE STUDY

Q. BRIEFLY DESCRIBE THE CCOSS SUBMITTED BY PGW IN THIS PROCEEDING.

A. The CCOSS sponsored by PGW in this proceeding is presented by Mr. Phil Q. Hansen of The Brattle Group, and utilizes a three-step analysis to determine the cost of serving each customer class. These three steps are (1) cost functionalization; (2) cost classification; and (3) cost allocation. The first step, functionalization, identifies and separates plant and expenses into specific categories based on the various characteristics of utility operation. The Company's functional cost categories includes: supply, storage, transmission, distribution, and customer meter/services.

Classification of costs, the second step, separates the functionalized plant and expense into the three cost-defining characteristics: (1) demand; (2) commodity; and (3) customer. The final step in the CCOSS is the allocation of each functionalized and classified cost element to the individual customer classes. Costs were generally allocated to each class based on demand, commodity, or customer allocation factors. In the Company's CCOSS, distribution mains investment (Account No. 376), PGW's largest plant item representing 35 percent of total plant in service, was allocated using the Customer/Demand methodology. Under PGW's application of this method, 50 percent of distribution mains investment was allocated based on the number of customers and 50 percent was allocated based on design day demands.

Q. PLEASE IDENTIFY THE CUSTOMER RATE CLASSES INCLUDED IN PGW'S CCOSS.

A. The Company's CCOSS studies include eight rate classes:

- Residential Non-heating, Residential Heating;
- Commercial Non-heating, Commercial Heating;
- Industrial Non-heating, Industrial Heating;
- Philadelphia Housing Authority (PHA) General Service (GS);
- Municipal Non-heating, Municipal Heating PHA;
- Developmental Natural Gas Vehicle Service (NGVS);
- Interruptible Sales; and
- Gas Transportation Service Firm and Interruptible (GTS/IT)

Q. UPON WHAT BASIS DOES MR. HANSEN CONTEND THAT IT IS APPROPRIATE TO ALLOCATE A PORTION OF DISTRIBUTION MAINS INVESTMENT BASED ON THE NUMBER OF CUSTOMERS?

A. When asked to explain the rational for allocating a portion of distribution mains investment based on the number of customers, Mr. Hansen stated:

> Underlying the classification of costs into customer and demand components is the notion that there is a minimally-sized system that can be built to meet the minimum needs of a customer in a particular rate class. The amount classified to customer is the portion of costs that would be incurred in order to serve that customer at that minimal level and any costs above that are considered to be driven by the need to modify the connection or equipment in response to demand that exceeds the customer's minimum requirements. As discussed in page 9 of my testimony, mains serve a dual purpose: (i) to connect customers and enable the customer to receive a minimal level of service; and (ii) to provide adequate capacity for the maximum demand level by the customer. It is appropriate to classify main-related costs to both customer and demand, given the dual purpose they serve. Classifying a portion of the cost of mains to demand allows for the use of a peak demand method in the allocation step. Peak demand methods view cost responsibility as based on the sizing of plant to reliably meet customer's needs. Since the utility is essentially the sole supplier of distribution services, it must size its plant to be capable of meeting all of its customers' demands at all times. (Response to OSBA-1-17).

Q. IS PGW'S CCOSS REASONABLE AND SHOULD IT BE USED TO DETERMINE THE ALLOCATION OF THE REVENUE INCREASE AUTHORIZED BY THE COMMISSION IN THIS PROCEEDING TO THE VARIOUS CUSTOMER CLASSES?

A. No. PGW's allocation of 50 percent of distribution investment mains based on the number of customers is unreasonable and, therefore, PGW's CCOSS should not be used to determine the allocation of the revenue increase authorized by the

Commission in this proceeding. The Company's Customer/Demand CCOSS misallocates distribution mains plant investment and related costs.

Q. HOW DID PGW DETERMINE THE CUSTOMER COMPONENT OF DISTRIBUTION MAINS INVESTMENT IN ITS CUSTOMER/DEMAND CCOSS?

A. PGW arbitrarily determined that 50 percent of distribution mains investment was customer related and reflective of PGW's minimum sized system.

Q. DO YOU AGREE WITH PGW'S CUSTOMER CLASSIFICATION OF DISTRIBUTION MAINS?

A. Allocating distribution mains investment on the basis of the number of customers in each class misallocates these costs of providing service. Distribution mains are not sized for the number of customers served from them, but for the loads placed upon them. This is made clear in the following example: Located along one block are ten Residential customers with a coincident peak demand of 1 Dth each. The distribution main running down the street would have to be capable of delivering 10 Dth at peak. On another block is only a small plastics factory that exhibits a maximum demand of 10 Dth. The main for that one customer has to be sized to deliver 10 Dth when the plastics factory demand peaks. It is clear that the mains investment is driven by the loads placed upon it—not by the number of customers served from it. Finally, imagine that the plastics factory is torn down to make room for five large residences, each of which exhibits a demand at time of coincident peak of 2 Dth. Again, the main that is sized to deliver 10 Dth is adequate. The existence of one customer, five customers, or ten customers does not determine the amount of mains investment; rather, mains investment is a function of the loads to be served.

Viewed alternatively, PGW's distribution mains allocation procedure assigns the same level of distribution investment to each customer, and fails to recognize differences in customer density. PGW's system consists of 16 million linear feet of mains (OCA-V11-13), and PGW serves approximately 500,000 customers. Therefore, under PGW's distribution mains allocation, each customer on the PGW system is assigned 16 feet of main. It is simply unreasonable to believe that each rate class served by PGW required the same length of distribution main extension in order to be connected to PGW's system. Non-Residential and larger-use customers are typically located farther apart than Residential and other small customers and, as such, would generally require more main to be connected to the PGW system.

Q. DOES ANY RECOGNIZED AUTHORITY AGREE WITH YOUR CONCLUSION THAT IT IS IMPROPER TO ALLOCATE A PORTION OF THE MAINS DISTRIBUTION SYSTEM ON THE BASIS OF BEING RELATED TO THE NUMBER OF CUSTOMERS?

A. Yes. Professor James Bonbright, at pages 491 and 492 of his *Principles of Public Utility Rates*, utilizing an example from the electric industry, states:

> But the really controversial aspect of customer-cost imputation arises because of the cost analyst's frequent practice of including, not just those costs that can be definitely earmarked as incurred for the benefit of specific customers but also a substantial fraction of the annual maintenance and capital costs of the secondary (low voltage) distribution system – a fraction equal to the estimated annual costs of a hypothetical system of minimum capacity. This minimum capacity is sometimes determined by the smallest sizes of conductors deemed adequate to maintain voltage and to keep from falling of their own weight. In any case, the annual costs of this phantom, minimum-sized distribution system are treated as customer costs and are deducted from the annual costs of the existing system, only the balance being included among those demand-

> related costs to be mentioned in the following section. Their inclusion among the customer costs is defended on the ground that, since they vary directly with the area of the distribution system (or else with the lengths of the distribution lines, depending on the type of distribution system), they therefore vary indirectly with the number of customers.
>
> What this last-named cost imputation overlooks, of course, is the **very weak correlation between the area (or the mileage) of a distribution system and the number of customers served by this system**. For it makes no allowance for the density factor (customers per linear mile or per square mile). Indeed, if the Company's entire service area stays fixed, an increase in number of customers does not necessarily betoken any increase whatever in the costs of a minimum-sized distribution system.
>
> While, for the reason just suggested, the inclusion of the costs of a minimum-sized distribution system among the customer related costs seems to me clearly indefensible, its exclusion from the demand-related costs stands on much firmer ground. [Emphasis added]

While Professor Bonbright's example addresses electric utility industry distribution facilities and costs, the example is also analogous for natural gas utility industry distribution facilities and costs. Professor Bonbright clearly agrees that distribution costs, except for those costs that can be definitely earmarked to benefit specific customers, are not properly classified as customer costs.

Q. HAS THIS COMMISSION PREVIOUSLY ADDRESSED THE ALLOCATION OF DISTRIBUTION MAINS INVESTMENT BASED ON THE NUMBER OF CUSTOMERS?

A. Yes. In Philadelphia Gas Works, Docket No. R-00061931, 2007 Pa. PUC Lexis 46 (2007), this Commission found that mains allocations based on the number of customers are not acceptable.

Q. WOULD A GAS UTILITY LIKE PGW ALWAYS INVEST IN DISTRIBUTION MAINS TO ATTACH A NEW CUSTOMER TO ITS SYSTEM?

A. No, it is common for an NGDC to add customers to its distribution system without a main extension.

Q. IN PGW'S CUSTOMER/DEMAND CCOSS, DID THE COMPANY PROPERLY CONSIDER CUSTOMER DEMANDS THAT CAN BE MET FROM THE PORTION OF DISTRIBUTION MAINS ALLOCATED BASED ON THE NUMBER OF CUSTOMERS WHEN IT DETERMINED ITS ALLOCATION OF THE DEMAND-RELATED PORTION OF DISTRIBUTION MAINS COSTS?

A. No. A significant percentage of Residential and other small customers could be provided service through the minimum system notion that underlies the basis for allocating distribution mains based on the number of customers. This being the case, there would be little to no unmet gas service requirements for these customers that would be dependent upon demand-related pipe costs. However, Residential and other small customers are still allocated 50 percent of non-customer, demand-related distribution mains costs in the Company's Customer/Demand CCOSS. Clearly, in the Company's CCOSS, Residential and other small customers should be given credit for their demands that can be met with the minimum system when it comes to determining who is responsible for the remaining portion of distribution mains classified as demand-related.

In performing its CCOSS, PGW has failed to consider any demand crediting when determining Residential and other small customer demands that are responsible for, or cause, costs classified as being demand-related. Failing to provide a demand credit results in a double allocation of costs to Residential and other small customers. This issue was addressed by George J. Sterzinger in his article, "The Customer Charge and Problems of Double Allocation of Costs" published in the July 2, 1981 edition of *Public Utilities Fortnightly*. In his article, referring to Customer/Demand allocations, Mr. Sterzinger states:

> An additional and more severe problem with this methodology arises from the consequences of classifying distribution system costs into both customer and demand portions. Simply put, this practice leads inevitably to a double allocation and possibly a double collection of these costs from low-use residential customers and a misallocation of costs among customer classes.

Q. WHAT DO YOU CONCLUDE REGARDING PGW'S ALLOCATION OF 50 PERCENT OF ITS DISTRIBUTION MAINS COST ON A CUSTOMER-RELATED BASIS IN ITS CCOSS?

A. First, I conclude that it is incorrect to consider distribution mains as being customer-related. This is so because mains investment is undertaken when, as explained later in my testimony, annual gas consumption is high enough to warrant the investment, and mains are sized to meet expected demand levels, independent of the number of customers served. In addition, PGW's allocation of 50 percent of its distribution mains cost on the basis of number of customers, combined with its failure to consider the demands that can be met with that investment when it allocates the remainder of its mains costs on a demand basis, is improper.

Since distribution mains exist to deliver annual requirements, and are sized to provide for peak requirements, it is proper to allocate distribution mains costs on the basis of peak and annual demands. Therefore, PGW's Customer/Demand CCOSS should be given no weight by the Commission.

Q. WOULD IT BE REASONABLE TO ALLOCATE DISTRIBUTION MAINS INVESTMENT BASED SOLELY ON DESIGN PEAK DAY DEMANDS, AS PGW HAS DONE FOR A PORTION OF DISTRIBUTION MAINS INVESTMENT IN ITS CUSTOMER/DEMAND CCOSS?

A. No. The design day demands utilized in PGW's Customer/Demand CCOSS is based on a day with approximately a 1-day-in-30-year probability of occurrence. If an allocation of distribution mains costs on the basis of design peak demand was in accordance with the principle of cost-causality,[1] then the demand for natural gas under design day weather conditions would have to be the only cause for the existence and customer utilization of PGW's distribution mains. Design day demands represent the maximum demands that are expected under the most severe weather assumptions used for planning purposes. While a portion of PGW's distribution mains costs are associated with, and hence should be, allocated on design demands, it is obviously wrong to profess that most distribution mains costs are caused by consumer demands on the coldest day experienced in PGW's service territory every 30 years or so. Quite simply, if PGW's customers had a demand for gas only on days that occur every 30 years, there would not be a PGW gas distribution system. The costs of delivered gas supplies on that one design peak day would be prohibitively high, and the cost of delivering gas through PGW's distribution system on that one day simply could not compete with alternative energy costs. For example, PGW's claimed annual cost of providing service is approximately $560 million and its projected design day demand is nearly 760,000 Mcf. This implies a cost of $737 per Dth to meet design day demands. If a design day occurred only once every 30 years, this would imply a cost of $22,110 per Dth to meet demands on that single day.

[1] The principle of cost-causality requires costs to be allocated to customers on the basis of the customers' relative use of the service units that gave rise to the costs in the first place.

Q. IF LOCAL GAS DISTRIBUTION SYSTEMS ARE NOT BUILT TO MEET THE COLDEST DAY WHICH MAY BE EXPERIENCED EVERY 30 YEARS, WHY DO GAS UTILITIES INCUR DISTRIBUTION MAINS INVESTMENT COSTS?

A. The basic reason why gas utilities like PGW invest in their distribution systems is to meet the annual demands for gas by end-use customers. This is the reason for the existence of gas utilities in the first place. Without sufficient annual gas usage over which to amortize the annual costs of providing service, there would be no gas distribution system. Additionally, as I will describe later, a portion of the total cost of distribution service is related to installing a system with enough throughput capacity to meet design day demands in excess of annual demands. Because distribution mains exist and are related to both annual demands and peak demands, both annual and peak demands must be recognized in the allocation of distribution mains costs if the allocation is to be in accordance with the principle of cost causality.

Q. DOES PGW'S MAINS EXTENSION POLICY CONSIDER DESIGN DEMANDS IN THE COMPANY'S DECISION-MAKING PROCESS?

A. No. For Residential customers, annual delivery charge revenues are considered in PGW's mains extension decision making process. For Commercial and Industrial customers, annual base rate revenues (delivery and customer charges) are considered in PGW's mains extension decision making process. This policy is described in Section 10.1 of the Company's tariff. Without sufficient annual demands, PGW has no obligation to extend its system to potential customers, and would not incur the costs to meet customer demands for gas only on one day. PGW may require a contribution-in-aid-of-construction ("CIAC") if the base rate revenues associated with a mains extension are insufficient to justify the investment.

Q. WHY IS IT PROPER TO ALLOCATE DISTRIBUTION MAINS INVESTMENT ON THE BASIS OF ANNUAL AS WELL AS PEAK DEMANDS?

A. The allocation of mains investment costs on the basis of both annual and peak demands is in accordance with the principle of allocating costs on the basis of cost causality. Natural gas is of little to no value to the customer if that gas cannot be delivered to the location of the gas-burning equipment. PGW's distribution system imparts locational value to the natural gas delivered across that system by allowing for the movement of that gas from its acquisition source to each customer's location. PGW's distribution system exists, and related costs are incurred, to deliver gas to its customers whenever, over the course of each year, its customers demand gas. In other words, PGW's system was built and costs were incurred to deliver gas both at the time of peak system demand and generally throughout the year. Because costs are incurred to deliver gas generally throughout the year, and additional costs are incurred to meet peak demands, PGW's distribution mains costs must be allocated on the basis of both annual and peak demands if those costs are to be allocated in accordance with the principle of cost causality.

Q. PLEASE EXPLAIN YOUR STATEMENT THAT COSTS ARE INCURRED TO DELIVER BOTH ANNUAL AND PEAK VOLUMES ACROSS PGW'S SYSTEM.

A. The customers included in PGW's CCOSS are projected to move 74,780,486 Mcf across PGW's system during the test period. This equates to an average demand of about 204,878 Mcf each day. PGW's design day demand is 760,080 Mcf. PGW cannot meet its customers' annual gas demands with a system capability any smaller than 204,878 Mcf. In other words, if there were no variance in the daily demands on

PGW's system, the capacity of that system would have to be designed to accommodate the daily movement of 204,878 Mcf just to meet the annual demands. To meet peak demands, PGW's system capacity must be 3.7 times larger than 204,878 Mcf. Thus, some costs are related to the average deliveries each day on the PGW system, and some costs are related to the movement of gas when demands are above the average demand.

Rational investment decision analysis requires the consideration of annual volumes delivered across an NGDC's system. A gas distribution system would not exist if all demand-related costs were the responsibility of design peak demands. Customers would simply choose other energy alternatives. A viable gas market is dependent upon the ability to amortize delivery costs over a sufficient volume of service so as to result in a unit cost that can be recovered at a price at which gas can be sold and still compete with other energy sources. The association of costs with annual as well as peak demands, and the allocation of costs on the basis of both annual and peak demands for gas, are absolutely essential to the economic feasibility of a gas delivery system. To largely ignore annual demands and allocate total mains costs on peak demands would be inconsistent with the consideration of annual demands which are absolutely essential to the economic justification of the very costs being allocated.

Q. HOW DO THE COSTS OF PROVIDING FOR THE MOVEMENT OF GAS TO MEET DESIGN PEAK DEMANDS COMPARE TO THE COSTS OF PROVIDING FOR THE MOVEMENT OF GAS TO MEET LESSER DEMANDS?

A. Many of the costs associated with the distribution delivery system do not depend upon pipe sizes. These costs would include planning, surveying, excavation, hauling, pipe bed preparation, unloading and stringing of pipe, municipal inspection, backfill, and pavement and sidewalk replacement. Since a portion of total costs does not vary with pipe size, or are fixed costs, total costs do not increase at a 1-to-1 ratio with increases in maximum demands. The additional costs associated with meeting elevated demands are largely related to the cost of the pipe itself.

Moreover, throughput capability increases not at a 1-to-1 ratio with the size of the pipe, but at a rate equal to the square of pipe diameter. Doubling the diameter of a pipe, for example, increases its capacity by four times the original capacity. Thus, the incremental costs of providing additional capacity are lower than the average costs of providing new capacity. This means that the costs associated with providing capacity for the movement of average demands are greater on a unit basis than are the costs associated with providing capacity for incremental demands. PGW's distribution system exists to deliver annual system requirements. There are costs that are uniquely associated with meeting design or peak demands, and as such, peak demands should bear some cost responsibility.

Q. ARE GAS FLOWS DURING THE DESIGN PEAK SO IMPORTANT THAT MOST OF PGW'S TOTAL DISTRIBUTION SYSTEM COSTS ARE DIRECTLY RELATED TO, AND CAUSED BY, PEAK DAY DEMAND REQUIREMENTS?

A. No. Peak demands are not the major cause of PGW's distribution mains cost, and it would be wrong to allocate distribution mains-related costs largely on the basis of peak demands. Only the marginal costs incurred to meet peak demands above other demands are caused by, or directly related to, peak requirements. PGW's gas delivery system simply would not be viable and simply would not exist if the only demand for gas was the demand associated with extreme design peak day weather conditions. PGW's delivery system exists because the total annual demand for gas is sufficient to warrant its existence. Because PGW's system exists to deliver annual gas requirements, but some additional costs are related to the delivery of gas during periods of elevated demand, it is appropriate to allocate its distribution mains costs on both annual and design peak demands. The allocation of distribution system-related costs solely on the basis of peak demands misallocates substantial costs because it fails to recognize that the PGW system was built and exists largely to meet annual demands.

Q. TO WHAT EXTENT DO THE COSTS OF MEETING PEAK GAS FLOW REQUIREMENTS EXCEED THE COSTS OF MEETING AVERAGE GAS FLOW REQUIREMENTS?

A. As previously noted, PGW's design peak day peak demand is about 3.7 times its average demand. A pipe's cross-sectional area, and correspondingly its capacity, varies with the square of its radius. Therefore, doubling the size of a pipe's radius (or diameter) increases the capacity of the pipe four-fold. For example, doubling the diameter of a 2-inch pipe to 4 inches increases the capacity by four times the capacity of the 2-inch pipe. Increasing the diameter of a 2-inch pipe to 8 inches increases the capacity by 16 times. The costs of meeting increased flow requirements that are caused by, or associated with, elevated demands is answered by the relationship of the change in total capacity costs to the change in capacity.

I explained earlier that since many capacity costs are essentially fixed, the increased incremental costs associated with meeting increased capacity requirements is expected to be small. Indeed, it is largely these economies of scale that lead to falling average costs of service and the provision of gas distribution service more economically by one monopoly provider, like PGW, rather than by many competing providers.

Q. DO YOU HAVE PGW-SPECIFIC DATA IDENTIFYING THE COSTS ASSOCIATED WITH MEETING INCREASED CAPACITY REQUIREMENTS?

A. Yes. The most common type of distribution mains installed by PGW since 2005 is plastic mains. In Table 1, I present PGW's average per-foot cost to install plastic mains since 2005:

Table 1.
PGW's Cost of Installed Plastic Mains

Diameter (inches)	**Average Cost** (per foot)
2	$85
4	$143
6	$171
8	$176

As shown in Table 1, the average cost of installing a 2-inch main was approximately $85 per foot, while the average cost of installing a 4-inch main was approximately $143 per foot. Thus, for a four-fold increase in capacity, PGW's total average costs increased by nearly 70 percent (($143-$85)/$85). Based on this example, a doubling of the pipe size (and hence a quadrupling of capacity) increased capacity costs by 70 percent, indicating that increased demands above average demands can be accommodated at increased distribution mains costs that are 18 percent (70 percent / four-fold increase in capacity) of the costs of meeting average demands:

Cost per Foot				**Capacity Increase**	**Cost of Peak**
2-inch	**4-inch**	**Increase**	**Percent**		
(a)	(b)	(c) = (b)-(a)	(d)=(c)/(a)	(e)	(f)=(d)/(e)
$85	$143	$58	70%	4	18%

Table 1 indicates that the average cost of installing a 6-inch main was approximately $170 per foot. Thus, for a 16-fold increase in capacity, PGW's total average costs increased by 100 percent (($170-$85)/$85) over the cost of 2-inch pipe. Based on this example, a quadrupling of pipe size (and hence a 16-fold increase in capacity) increased capacity costs by about 100 percent, indicating that increased demands above average demands can be accommodated at an increased distribution mains costs that are 6 percent (100 percent / 16-fold increase in capacity) of the costs of meeting average demands:

Cost per Foot				Capacity	Cost of
2-inch	8-inch	Increase	Percent	Increase	Peak
(a)	(b)	(c) = (b)-(a)	(d)=(c)/(a)	(e)	(f)=(d)/(e)
$85	$170	$85	100%	16	$6

Given these two PGW-specific examples above, well less than half of distribution mains costs are associated with meeting elevated peak demand requirements and could be allocated based on peak demands, and the remainder is related to customers' annual demands for natural gas and could be allocated on average demands.

Q. HOW CAN DISTRIBUTION MAINS INVESTMENT COSTS BE PROPERLY ALLOCATED?

A. The additional costs of providing capacity in order to meet peak demands, as opposed to lesser demands, should be allocated on a peak demand basis. As I just demonstrated, significantly less than 50 percent of distribution mains costs are generally associated with meeting increased demands; hence, a portion of mains costs should be allocated on the basis of peak demands. To be conservative, I recommend that 50 percent of PGW's distribution mains system costs, instead of a lesser amount, be allocated on the basis of peak demands. Because PGW's system exists to meet annual customer requirements, and PGW's distribution mains investment decisions are determined based on annual customer requirements, conservatively, at least the remaining 50 percent of PGW's distribution mains costs should be allocated on annual, or average, demands.

Q. HAS THE PEAK & AVERAGE APPROACH PREVIOUSLY BEEN ACCEPTED BY THIS COMMISSION?

A. The Pennsylvania Public Utility Commission ("PaPUC") has previously accepted the fact that distribution mains are built on the basis of year-round demands as well as peak demands. In the 1994 base rate proceeding of National Fuel Gas Distribution Company, the PaPUC accepted the Peak & Average methodology, stating, "The Peak & Average method that allocates mains equally is a sound and reasonable method of cost allocation and should remain intact." *Pa. P.U.C. v. National Fuel Gas Distribution Co.*, 83 Pa. PUC 262, 360 (1994). See also *Pa. P.U.C. v. National Fuel Gas Distribution Co.*, 73 Pa. PUC 552 (1990); *Pa. P.U.C. v. Equitable Gas Co.*, 73 Pa. PUC 301 (1990); *Pa. P.U.C. v. National Fuel Gas Distribution Corp.* 72 Pa. PUC 1 (1989); and *Pa. P.U.C. v. PGW Gas Co.*, 69 Pa. PUC 138 (1989).

Q. HAVE OTHER COMMISSIONS ACCEPTED THE USE OF THE PEAK & AVERAGE METHOD?

A. Yes. The Indiana Utility Regulatory Commission ("IURC") has strongly endorsed the use of the Peak & Average methodology. See *In re Citizens Gas & Coke Utility*, IURC Cause No. 42767 (Oct. 19, 2006). The IURC found that the Peak & Average method was the "equitable and realistic" method for allocating distribution mains costs, and provided the following analysis:

> Based upon the record evidence, this Commission concludes that the OUCC's [Indiana Office of Utility Consumer Counselor] cost-of-service study is most reflective of cost causation and possesses a high degree of objectivity upon which the Commission may place

> reliance in establishing the rates and charges in this proceeding.
>
> While we do not doubt that distribution mains must be constructed with peak demand in mind, distribution mains do not only serve customers on peak demand days. Therefore, a measure of the costs of distribution mains must be allocated to customers based on their usage that takes place on non-peak days. For example, a customer that does not take service at all on the peak demand day-and therefore contributes nothing to peak demand requirements of distribution mains-but receives service through distribution mains at other times should be responsible for some portion of distribution main costs.
>
> The OUCC's approach is much more equitable and realistic. Rather than allocating distribution main costs exclusively based on either peak demand day or average annual consumption, the OUCC used a compromise approach that allocated these costs based on both. Under the OUCC's cost-of-service study, 80% of distribution main costs are allocated based on average demand. (Public's Ex. No. 6 at 13.) In this way, the OUCC's approach allocates part of distribution main costs to customers who receive service through distribution mains throughout the year but who may not receive much or any service on the peak demand day.
>
> For the reasons set forth above, we find the OUCC's cost-of-service study most accurately reflects the manner in which distribution main costs are actually incurred. See, In Re Citizens Gas & Coke Utility, IURC Cause No. 39066, at 31 (Nov. 1, 1999). We therefore adopt the OUCC's cost-of-service study to implement the rates increase approved in this Cause.
>
> [*In re Citizens Gas & Coke Utility*, IURC Cause No. 42767, at 74-75 (Oct. 19, 2006)]

The Illinois Commerce Commission ("ICC") has accepted the Peak & Average method for allocating transmission and distribution costs in the natural gas industry. The ICC explained the reasoning behind utilizing a Peak & Average methodology in their decision as follows:

> Generally, [Central Illinois Public Service Company or CIPS] and [Union Electric Company or UE] gas transmission and distribution facilities exist because there is a daily need for such facilities. Regardless of when CIPS and UE experience their respective peak and the level of the peak, customers depend on the continued operation of the Ameren gas transmission and distribution systems to meet their daily needs. On the day that the peak does occur. Ameren's own Mr. Carls testifies that CIPS' and UE's respective systems are built to accommodate the system peak without regard to each class' peak. In light of the nature in which the transmission and distribution systems are used and because of the relatively declining cost of increasing capacity, peak demand is not the appropriate emphasis in allocating demand costs...As the Commission concluded in Docket 94-0040, a utility cannot justify its transmission and distribution investment on demands for a single day. The allocation method that properly weights peak demand is the [Average & Peak or A&P] method, the same method that the Commission adopted in CIPS' and UE's last gas rate cases. The A&P method properly emphasizes the average component to reflect the role of year-round demands in shaping transmission and distribution investments.
>
> [*Central Ill. Pub. Service Co. Proposed General Increase in Natural Gas Rates, et al.*, 2003 Ill. PUC Lexis 824, 231-232 (2003)]

Q. WHAT ARE THE RESULTS OF THE COMPANY'S CCOSS?

A. Table 2 below shows the results of PGW's CCOSS at present rates.

Table 2. Class Rates of Return PGW Class Cost-of-Service Study Results at Present Rates		
Class	**Rate of Return**	**Index**
Residential	3.7%	0.78
Commercial	12.3	2.62
Industrial	12.9	2.75
PHA GS	3.9	0.82
Municipal/PHA	4.1	0.87
NGVS	13.4	2.84
Interruptible Sales	(16.4)	(3.50)
GTS/IT	1.7	0.37
System	**4.7%**	**1.00**

Q. HAVE YOU PREPARED A CCOSS UTILIZING THE PEAK & AVERAGE METHOD TO ALLOCATE DISTRIBUTION MAINS?

A. Yes. The results of a CCOSS utilizing the Peak & Average method at the Company's requested revenue increase is presented in Schedule JDM-1. This study provides a reasonable indication of the cost of service for each rate class. Table 3 provides a summary of the OCA's CCOSS at present rates.

Table 3. Class Rates of Return PGW Peak & Average Cost-of-Service Study Results at Present Rates – 50/50 Demand/Annual Allocation		
Class	**Rate of Return**	**Index**
Residential	11.2%	1.06
Commercial	7.8	0.74
Industrial	0.7	0.07
PHA GS	14.0	1.32
Municipal/PHA	0.3	0.03
NGVS	2.9	0.27
Interruptible Sales	(14.3)	(1.35)
GTS/IT	20.7	1.95
System	**10.6%**	**1.00**

Q. DOES THIS MEAN YOU AGREE WITH ALL OF THE OTHER COST ALLOCATIONS REFLECTED IN PGW'S CCOSS?

A. No. There are other cost allocations included in PGW's CCOSS with which I do not agree. However, adjusting PGW's CCOSS to correct these allocations would not have a material impact on the CCOSS results and, therefore, I have not proposed changes to PGW's allocations. For example, PGW's CCOSS allocates distribution plant accounts 374 (Land and Land Rights), 375 (Structures and Improvements), 377 (Compressor Station Equipment), and 378 (Measuring Station Equipment) to each class based on design demands. Since the investment in these accounts supports distribution mains system operations, it would be appropriate to allocate a portion of these costs based on annual demands consistent with the allocation of distribution mains investment.

III. DISTRIBUTION OF REVENUE INCREASE

Q. PLEASE DESCRIBE HOW PGW IS PROPOSING TO DISTRIBUTE ITS REQUESTED REVENUE INCREASE AMONG ITS CUSTOMER CLASSES IN THIS PROCEEDING.

A. PGW generally sought to allocate the revenue increase toward the cost of service indicated by the results of its CCOSS, while attempting to maintain rate stability and promote gradualism. The Company's proposed base rate revenue distribution is presented in Table 4.

Table 4.
PGW Proposed Revenue Distribution

Class	Present Rates	Proposed Rates	Increase	Percent
Residential	$385,459	$444,459	$59,000	15.3%
Commercial	77,324	82,324	5,000	6.5
Industrial	5,899	5,499	(400)	(6.8)
PHA GS	1,499	1,899	400	26.7
Municipal/PHA	8,852	9,352	500	5.6
NGVS	20	20	0	0.0
Interruptible Sales	18	18	0	0.0
GTS/IT	12,246	17,746	5,500	44.9
Total	**$491,318**	**$561,318**	**$70,000**	**14.2%**

Q. IS PGW'S PROPOSED REVENUE ALLOCATION REASONABLE?

A. No. PGW's revenue allocation is guided by the results of its CCOSS. As explained in the prior section of my testimony, this study violates the principle of allocating costs on the basis of cost causality, and does not reasonably reflect the costs of providing service to the various customer classes. The OCA's Peak & Average CCOSS should be used as a guide for the allocation of any increase authorized by the Commission in this proceeding.

Q. WHAT ARE SOME OF THE PRINCIPLES OF A SOUND REVENUE ALLOCATION?

A. A sound revenue allocation should:

- Utilize class cost-of-service study results as a guide;
- Provide stability and predictability of the rates themselves, with a minimum of unexpected changes seriously adverse to ratepayers or the utility (gradualism);
- Yield the total revenue requirement;
- Provide for simplicity, certainty, convenience of payment, understandability, public acceptability, and feasibility of application; and
- Reflect fairness in the apportionment of the total cost of service among the various customer classes.

Q. WHAT DO YOU RECOMMEND WITH RESPECT TO THE ALLOCATION OF PGW'S PROPOSED REVENUE INCREASE?

A. Table 5 below summarizes my recommended revenue distribution at proposed rates at the Company's claimed revenue deficiency. Additional detail concerning the impact of this revenue distribution is included on Schedule JDM-1.

Table 5.
OCA Proposed Revenue Distribution
($000)

Class	Proposed Rates	Increase	Percent
Residential	$438,537	$53,175	13.8%
Commercial	87,402	10,000	12.9
Industrial	6,816	910	15.4
PHA GS	1,764	265	17.7
Municipal/PHA	11,065	2,200	24.8
NGVS	20	0	0.0
Interruptible Sales	18	0	0.0
GTS/IT	15,696	3,450	28.2
Total	**$561,318**	**$70,000**	**14.2%**

Q. HOW DID YOU DEVELOP YOUR PROPOSED REVENUE DISTRIBUTION?

A. With the following limited exceptions, my proposed revenue distribution moves each customer class to the cost of service indicated by the OCA's CCOSS. PGW is proposing to consolidate the Municipal and PHA Rate 8 customer classes. As indicated by the OCA's CCOSS, this consolidated class would be providing revenues significantly below the indicated cost of service. In fact, as shown on Table 3 of PGW St. No. 6 (Direct Testimony of Kenneth S. Dybalski), PGW is proposing a rate decrease for the PHA Rate 8 class. I do not believe it appropriate to decrease the rates of a particular customer class when overall costs are increasing, and especially when revenues from the class are insufficient to recover the indicated cost of service. Therefore, I am proposing an increase for this class that attempts to maintain the combined class current relative rate of return and reflects gradualism.

For the GTS/IT class, I have proposed an increase that moderates the 45 percent increase proposed by PGW to 28 percent. While the CCOSS presented in Schedule JDM-1 indicates that this increase would result in this class contributing revenues slightly in excess of the indicated cost of service, the indicated cost of service is based on the assumption that service to these costumers is interruptible. As explained by PGW witness Douglas S. Moser (PGW St. No 7), the service provided to interruptible customers is nearly equivalent to firm service (page 37, lines 14-17). Recognizing this in the CCOSS would significantly increase the indicated cost of serving interruptible customers.

Finally, for the NGVS and Interruptible Sales classes, PGW has proposed no increases and I have accepted PGW's proposal. I would initially note that combined, these two classes represent less than 0.01 percent of PGW's base rate distribution revenues. With respect to NGVS, this is a developmental service currently with one customer and annual sales volumes of 6,000 Mcf. If PGW is able to promote this service and increase the number of NGVS customers or sales volumes, a future rate increase may be warranted. With respect to Interruptible Sales, PGW has an Interruptible Revenue Credit ("IRC") mechanism in place that provides for the crediting of 100 percent of the margins realized from interruptible sales to GCR rate customers. Therefore, other customers already receive a benefit from any additional Interruptible Sales revenue that PGW could realize.

Q. WHAT DO YOU RECOMMEND WITH RESPECT TO THE SCALE-BACK OF YOUR PROPOSED REVENUE DISTRIBUTION TO REFLECT THE INCREASE ACTUALLY AUTHORIZED BY THE COMMISSION IN THIS PROCEEDING?

A. In the event that PGW's authorized increase is less than its requested increase, I recommend a proportionate scale-back of the increase for each rate class.

IV. RATE DESIGN

Q. PLEASE DESCRIBE PGW'S GENERAL APPROACH TO RATE DESIGN IN THIS PROCEEDING.

A. PGW is proposing an increase in each class' customer charge, to the extent it claims it is justified by its CCOSS, that sets the customer charge at a level that covers a greater portion of customer costs associated with providing service to each class of customers (excluding classes where the rates are governed by contract).

Q. PLEASE DESCRIBE PGW'S CURRENT AND PROPOSED RESIDENTIAL RATES.

A. The current monthly Residential customer charge is $12.00, and PGW is proposing to increase this charge to $18.00, or by 50 percent.

Q. SHOULD PGW'S PROPOSED RESIDENTIAL CUSTOMER CHARGE BE APPROVED?

A. No, for several reasons. First, PGW's proposed customer cost is inconsistent with the concept of gradualism. Second, PGW's Residential customer charge proposal is out of line with the Residential customer charges of other NGDCs in the Commonwealth. Third, as discussed in the testimony of OCA witness Colton PGW's proposal will have a disproportionate impact on low-income customers. Finally, a high fixed monthly customer charge is inconsistent with the Commission's general goal for fostering energy conservation.

Q. PLEASE ELABORATE ON YOUR OBSERVATION THAT PGW'S PROPOSED CUSTOMER CHARGE INCREASE IS INCONSISTENT WITH THE CONCEPT OF GRADUALISM.

A. As indicated previously, one of the principals of a sound rate design is gradualism, which is the stability and predictability of rates with a minimum of unexpected changes seriously adverse to ratepayers or the utility. PGW's proposed 50 percent increase in the monthly Residential customer charge violates this important principle. Virtually all Residential customers use relatively small amounts of gas during the non-heating months (May – October), and as a result would experience significant percentage increases in their bills in those months under PGW's proposal.

Q. HOW DOES PGW'S RESIDENTIAL CUSTOMER CHARGE PROPOSAL COMPARE WITH THE MONTHLY RESIDENTIAL CUSTOMER CHARGES OF OTHER NGDCs IN THE COMMONWEALTH?

A. Table 6 provides a comparison of PGW's Residential customer charge proposal with the customer charges of other Pennsylvania NGDCs. As shown there, PGW's proposed customer charge would be the highest in the Commonwealth.

Table 6. Comparison of Residential Customer Charges for Pennsylvania NGDCs	
PGW Proposed	**$18.00**
PGW Current	**12.00**
Columbia Gas of Pennsylvania	16.75
Peoples TWP	15.75
UGI Central Pennsylvania	14.60
Peoples Natural Gas	13.95
Peoples – Equitable Division	13.25
UGI Penn Natural Gas	13.17
National Fuel Gas Company	12.00
PECO Energy Company	11.75
UGI Gas Utilities	11.75

Q. WHY IS A HIGH FIXED MONTHLY CUSTOMER CHARGE INCONSISTENT WITH THE COMMISSION'S GENERAL GOAL OF FOSTERING ENERGY CONSERVATION?

A. The more revenue collected through the fixed monthly charge, the lower the volumetric charge. The higher the volumetric charge, the greater the incentive to lower usage.

Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO PGW'S MONTHLY RESIDENTIAL CUSTOMER CHARGE?

A. PGW's proposed monthly Residential customer charge would be the highest in the Commonwealth. PGW's current monthly Residential customer charge is $12.00 per month, and this rate has been in effect since at least 2003. PGW is proposing an overall increase of nearly 15 percent in this proceeding. Therefore, I recommend that PGW's current monthly Residential customer charge be increased by the overall requested increase to $13.75. This charge should be reduced to reflect the overall revenue increase authorized by the Commission in this proceeding.

Q. ARE YOU PROPOSING ANY CHANGES TO PGW'S GAS PROCUREMENT CHARGE ("GPC") OR MERCHANT FUNCTION CHARGE ("MFC")?

A. No. PGW's initial filing reflects a GPC of $0.0228 per Mcf (PGW Exhibit PQH-10). I would note, however, that in the response to OSBA-1-25, PGW has reduced its GPC-related costs by $178,985, which would reduce the GPC to $0.0186 per Mcf. The current GPC is $0.04 per Mcf.

Q. ARE YOU PROPOSING ANY CHANGES TO PGW'S PROPOSED MERCHANT FUNCTION CHARGES ("MCF")?

A. Yes. PGW has proposed separate MFCs for the Residential, Commercial, and Industrial customer classes. These MFCs are calculated and presented on PGW Exhibit PQH-11 and are based on an overall uncollectible rate of 4.21 percent. OCA witness Ashley E. Everette is recommending an overall uncollectible rate of 3.00 percent. I recommend that PGW's proposed MFCs for each class be proportionately adjusted to reflect Mrs. Everette's recommendation. My proposed MFCs are reflected in Table 7.

Table 7
Class Merchant Function Charges

Class	PGW	OCA
Residential	5.17%	3.68%
Commercial	0.86%	0.61%
Industrial	0.53%	0.38%

V. NEGOTIATED RATE PROPOSALS

Q. PLEASE DESCRIBE PGW'S PROPOSAL TO NEGOTIATE THE RATES FOR INTERRUPTIBLE TRANSPORTATION SERVICE.

A. PGW is proposing to establish price ranges for the distribution charge under Rate IT. One end of the range will be the actual cost of service as determined in this (and future) rate cases. At the other end of the range is the equivalent firm transportation rate. The distribution charge would be negotiated by the customer and the Company within the established range. PGW is proposing a transition period to move all Rate IT customers to a negotiated rate. Customers currently taking service under Rate IT would transition to a negotiated rate on the third anniversary following the Commission's approval of PGW's proposal. New customers or new load under Rate IT would be subject to negotiated rates upon Commission approval of PGW's proposal.

Q. SHOULD PGW'S PROPOSAL TO NEGOTIATE RATES FOR IT SERVICE BE APPROVED?

A. Yes, however, with one modification. PGW is proposing to delay implementation of the proposal for three years. I find no justification for such an extended delay and recommend that PGW begin implementing its proposal one year after Commission approval of its proposal.

Q. PLEASE EXPLAIN PGW'S PROPOSED RATE BACK-UP SERVICE (BUS).

A. PGW is proposing a tariff provision that would permit the Company to negotiate a rate with a customer installing any type of operable back-up or emergency equipment and that from, time to time, would require natural gas from the Company for the customer's operation of that equipment. This service differs from existing services because the customer is not required to take any amount of gas from PGW. Customers can select the back-up level of service that is needed, and will pay a negotiated standby (or reservation) charge that the Company claims would collect those costs associated with standing ready to serve the customer. If during the term of the customer's contract with the Company, the customer requires gas to run its equipment, the customer would pay the negotiated delivery and commodity charges.

Q. SHOULD RATE BUS BE APPROVED?

A. No. PGW's proposal is incomplete and should not be approved as proposed. The Company's proposal does not include any reporting requirements that would enable interested parties to assess whether the rates negotiated by the Company would collect the costs associated with standing ready to provide service. Rate BUS should be subject to the same reporting requirements that I recommend for the TED Rider that I discuss in the next section of my testimony. In addition, under Rate BUS, customers will be permitted to purchase sales service from the Company, which could cause PGW's GCR costs to increase. This could occur, for example, because PGW's sales service rates are set based on the average market price of gas over a defined period and purchases under Rate BUS may be made during a period when the market price of gas is higher than the average cost. This increase in the Company's gas costs would be reflected in its GCR. Any increase in purchased gas demand or commodity costs attributable to Rate BUS should be assessed to those customers subscribing to Rate BUS, not GCR customers. It is unlikely that assessing Rate BUS customers PGW's GCR rate for the gas actually utilized will provide adequate compensation for those costs.

VI. PILOT PROGRAMS

Q. PLEASE DESCRIBE PGW'S PROPOSED TECHNOLOGY AND ECONOMIC DEVELOPMENT RIDER (TED RIDER).

A. PGW is proposing to implement, as a five-year pilot program, a TED Rider that the Company contends would increase access and expand the use of natural gas by giving commercial customers more options to obtain natural gas, including combined heat and power (CHP) projects, natural gas vehicles (NGVs), and fuel cells. As proposed, the TED Rider would permit PGW to negotiate the delivery charges, as well as the customer contribution to the development, and service of the infrastructure, for firm service non-residential customers on Tariff Rate Schedules for General Service (Rate GS), Municipal Service Rate (Rate MS), Philadelphia Housing Authority Service (PHA), and Development Natural Gas Vehicle Service (Rate NGVs-Firm). The TED Rider will be applicable by request of the applicant and, with approval by PGW, would be subject to the following criteria:

1. The TED Rider will be applicable to usage associated with new gas load at competitive risk only.
2. The TED Rider will be applicable for a defined period as outlined in the customer's service agreement.
3. The TED Rider will be determined and applied using an economic test consistent with PGW's commercial and industrial line extension tariff provisions.

PGW claims that the primary purpose of the TED Rider is to negotiate the amounts and time periods for a customer's contribution to mains and services costs and their overall distribution charges to address project-specific or competitive issues in order to improve a customer's access to natural gas and expand the use of natural gas in PGW's service territory. PGW claims the TED Rider will be determined and applied using an economic test that requires anticipated revenues, and at a minimum, to be sufficient to justify the anticipated investment.

Q. SHOULD THE PROPOSED TED RIDER BE APPROVED BY THE COMMISSION?

A. I recommend that the TED Rider be approved subject to the following conditions and reporting requirements. In this regard I would note that a similar TED Rider was recently approved for UGI Utilities, Inc. – Gas Division ("UGI") on a three-year pilot basis (Docket No. R-2015-2518438). The Order approving the TED Rider required UGI to report on the economics of the TED Rider six months before the conclusion of the pilot program, which PGW has also proposed. The Order also required that if UGI filed a base rate case during the three-year pilot period, UGI was required to provide information, as part of its initial filing, showing the pro forma rate of return on incremental investment for TED customers as a sub-class in it filed CCOS. I recommend that the same three-year term and reporting requirements be imposed for PGW's TED Rider. I also note that, like Rate BUS, TED Rider customers would be entitled to purchase sales service from the Company. I recommend that to evaluate the gas costs imposed on PGW and GCR customers by TED Rider customers, PGW report details on the sales to TED Rider customers and the related costs in its subsequent annual GCR filings.

Q. PLEASE DESCRIBE PGW'S PROPOSED PILOT MICRO-CHP INCENTIVE PROGRAM.

A. PGW is requesting approval of a five-year pilot Micro-CHP Incentive Program for small and medium sized commercial properties to encourage market development and market acceptance of small targeted fuel-switching projects to increase the usage of natural gas. Proposed projects will be required to satisfy an economic test.

For projects that qualify, PGW would offer up to $750 per kW for units between 20 kW and 50 kW, and up to $1,000 for any units below 20 kW. PGW is not seeking to include the projected costs of these incentives in the fully projected test year revenue calculations because PGW has no means of projecting whether and to what extent the incentive will be offered. In addition, since the projects are required to satisfy an economic test to justify the incentive, PGW anticipates that the costs of the investment will be returned to the Company during the term of the agreement. Customers seeking to avail themselves of this pilot will be required to submit project details including implementation costs, annual electricity production, gas usage before the project, and anticipated gas usage after the project is completed. PGW will then evaluate the proposals, verify the projections, and determine whether or not the projected increased natural gas usage (and related incremental increased revenue to PGW) justify payment of the financial incentives to undertake the project. Similar to the TED Rider, PGW proposes to provide a report to the Commission on the economics of the program six months prior to the end date of the pilot. In the event that PGW files a base rate case before that time, PGW proposes to include information about the economics of the Micro-CHP program in the supporting information for that base rate case. In either instance, PGW would propose whether to continue the pilot program in its current form or with modification. If the pilot program would not continue, no additional customers would be permitted to participate.

Q. SHOULD PGW'S PROPOSED PILOT MICRO-CHP INCENTIVE PROGRAM BE APPROVED BY THE COMMISSION?

A. I recommend that the proposed Pilot Micro-CHP Incentive Program be approved with the same term and reporting requirement which I have recommend for the

TED Rider. In addition, the economic test that will determine eligibility for participation in the Pilot Micro-CHP Incentive Program should include the costs of the incentives to ensure other ratepayers are not responsible for the costs of the incentives.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does at this time.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

EXHIBITS ACCOMPANYING THE

DIRECT TESTIMONY OF

JEROME D. MIERZWA

ON BEHALF OF THE
PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

EXETER
ASSOCIATES, INC.
10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

PHILADELPHIA GAS WORKS
Allocated Class COS-Study - Full Projected Future Test Year Ended Agusut 31, 2018 - OCA Peak & Average Class Cost of Service Study
Schedule JDM-1: Summary of Allocation Results

		Total	Residential	Commercial	Industrial	PHA GS	Municipal/PHA	NGVS	Interruptible Sales	GTS/IT
AT CURRENT RATES										
Total Revenue	[1]	491,318	385,362	77,402	5,908	1,499	8,865	20	18	12,246
Share of Revenue, by Class	[2]	100.0%	78.4%	15.8%	1.2%	0.3%	1.8%	0.0%	0.0%	2.5%
Total Operating Expenses	[3]	435,418	339,414	68,268	5,410	1,335	9,280	22	26	11,663
Share of Operating Expenses, by Class	[4]	100.0%	78.0%	15.7%	1.2%	0.3%	2 1%	0.0%	0 0%	2.7%
Income Before Interest & Surplus	[5] [1]-[3]	55,900	45,948	9,134	496	164	(415)	(2)	(9)	583
Interest & Surplus	[6]	125,013	98,204	19,065	1,402	423	2,815	6	6	3,092
Current Revenue Over(Under) Requirements	[7] [5]-[6]	(69,113)	(52,256)	(9,931)	(906)	(259)	(3,230)	(8)	(15)	(2,509)
Total Revenue Requirement*	[8] [11]- [7]	560,431	437,618	87,333	6,812	1,756	12,095	28	32	14,755
Revenue Increase for Full Cost of Service	[9]	14.1%	13.6%	12.8%	15.3%	17.3%	36.4%	37.9%	82.9%	20.5%
Rate Base	[10]	1,188,372	933,527	181,228	13,328	4,024	26,757	59	60	29,369
Return on Rate Base Before Inerest & Surplus	[11] [5] / [10]	4.7%	4.9%	5.0%	3.7%	4.1%	(1.6%)	(2.9%)	(14.3%)	2.0%
Relative Return	[12]	1.00	1.05	1.07	0.79	0.87	(0.33)	(0.61)	(3.04)	0.42
Revenues Relative to COS	[13] [1] / [8]	**0.88**	**0.88**	**0.89**	**0.87**	**0.85**	**0.73**	**0.73**	**0.55**	**0.83**
Relative to Total for all Classes	[14]	1.00	1.00	1.01	0.99	0.97	0.84	0.83	0 62	0.95
AFTER PROPOSED INCREASE										
Proposed Increase (decrease)	[15]	70,000	53,175	10,000	910	265	2,200	0	0	3,450
Share of Proposed Increase, by Class	[16]	100 0%	76.0%	14.3%	1.3%	0.4%	3.1%	0.0%	0.0%	4.9%
Total Distribution Revenue with Increase	[17] [1] + [15]	561,317 8	438,537.0	87,402.0	6,816.0	1,764.0	11,065.0	20.3	17.5	15,696.0
Increase(Decrease)%	[18] [15) / [1]	14 2%	13.8%	12.9%	15.4%	17.7%	24 8%	0.0%	0.0%	28.2%
Income Before Interest & Surplus	[19] [5] + [15]	125,900	99,123	19,134	1,406	429	1,785	(2)	(9)	4,033
Return on Rate Base Before Interest & Surplus	[20] (19]/ [10]	10.6%	10.6%	10.6%	10.5%	10.7%	6.7%	(2.9%)	(14.3%)	13.7%
Relative Return	[21]	1.00	1.00	1.00	1.00	1.01	0.63	(0.27)	(1.35)	1.30
Revenues Relative to COS	[22] [17] /[8]	1.00	1.00	1.00	1.00	1.00	0.91	0.73	0.55	1.06
Percent of System Average Increase	[23]	100%	97%	91%	108%	124%	174%	0%	0%	198%

* The Total Revenue Requirement is equal to the Tariff Requirement plus the revenues that PGW collects from customer installations, interest income, and certain LNG sales.

PENGAD 800-631-6989
EXHIBIT
R2017 2586783
OCA - Schedule JDM-1
6-28-17 RP

OCA STATEMENT NO. 3

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

APPENDIX A TO THE

DIRECT TESTIMONY

OF

JEROME D. MIERZWA

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

JEROME D. MIERZWA

Mr. Mierzwa is a Principal of Exeter Associates, Inc., with over 25 years of public utility regulatory experience. At Exeter, Mr. Mierzwa has been involved in purchased gas cost allocation analysis and rate design analysis, conducting management audits and similar investigations of the natural gas supply and procurement policies and practices of local distribution companies (LDCs), and has provided assistance in proceedings before the Federal Energy Regulatory Commission (FERC). Mr. Mierzwa has participated in the planning of natural gas procurements for major federal installations located in various regions of the country. Mr. Mierzwa has been involved in evaluating performance-based incentive regulation for LDC purchased gas costs and the unbundling of LDC services. Mr. Mierzwa has participated in developing utility class cost-of-service studies, has presented testimony sponsoring gas, water and wastewater utility cost-of-service studies, least cost gas procurement and incentive regulation, in addition to presenting testimony addressing utility rate base and revenues.

Education

B.S. (Marketing) – Canisius College, Buffalo, New York, 1981

M.B.A. (Finance) – Canisius College, Buffalo, New York, 1985

Gas Rates Fundamental Course, June 1987, University of Wisconsin, sponsored by the American Gas Association.

Previous Employment

1986-1990 Rate Analyst
National Fuel Gas Company
Buffalo, New York

Previous Experience

Prior to joining Exeter in 1990, Mr. Mierzwa served as a rate analyst at National Fuel Gas Supply Corporation, an interstate pipeline. In that position, he was involved in preparing purchased gas adjustment filings and reviewing the rate filings of interstate pipeline suppliers. Mr. Mierzwa was also involved in preparing supplier rate, gas sales, and gas purchase price forecasts, examining the rate implications of storage activity, and analyzing rate of return, cash working capital, and potential merger and acquisition candidates.

Presentations

The NASUCA annual meetings in San Antonio, Texas, November 1991 (presentation concerning the FERC Mega-NOPR proceeding which led to the adoption of FERC Order No. 636).

The NASUCA annual meetings in Reno, Nevada, November 1994 (presentation concerning spot market gas incentive procurement programs).

Expert Testimony

Columbia Gas of Ohio (Public Utilities Commission of Ohio , Case No. 90-17-GA-GCR), November 1990. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without cross-examination.)

City of Great Falls Wastewater Utility (Montana Public Service Commission Docket No. 90.10.66), March 1991. Presented a cost of service study on behalf of the U.S. Air Force.

City of Great Falls Water Utility (Montana Public Service Commission Docket No. 90.10.67), March 1991. Presented a cost of service study on behalf of the U.S. Air Force.

Cincinnati Gas & Electric Company (Public Utilities Commission of Ohio, Case No. 91-16-GA-GCR), October 1991. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without cross-examination.)

Louisiana Gas Service Company (Louisiana Public Service Commission Docket No. U-19237), December 1991. Testified on rate base including cash working capital, cost allocation and rate design on behalf of the Louisiana Public Service Commission.

Equitable Gas Company and Jefferson Gas Company (Pennsylvania Public Utility Docket No. R-00912164), April 1992. Presented a revised forecast of test year sales and revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Peoples Natural Gas Company (Pennsylvania Public Utility Docket Nos. R-00922180 and R-00922206), May 1992. Presented testimony sponsoring a revised forecast of purchased gas costs and on least cost gas procurement on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-922323), July 1992. Presented testimony on the allocation of purchased gas costs and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Providence Water Supply Board (Rhode Island Public Utilities Commission Docket No. 2048), August 1992. Presented testimony sponsoring a class cost of service study, cash working capital and revenues on behalf of the Division of Public Utilities and Carriers.

Dallas, Harvey's Lake, Noxen and Shavertown Water Companies (Pennsylvania Public Utility Docket Nos. R-922326, R-922327, R-922328 and R-922329) September 1992. Presented testimony on rate base and net operating income issues on behalf of the Pennsylvania Office of Consumer Advocate.

Columbia Gas of Ohio (Public Utilities Commission of Ohio, Case No. 92-18-GA-GCR). January 1993. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00922499), March 1993. Presented testimony on the allocation of purchased gas costs, FERC Order No. 636 transition costs and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Philadelphia Suburban Water Company (Pennsylvania Public Utility Docket No. R-00922476), March 1993. Presented testimony addressing test year revenues and expenses on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00932598), May 1993. Presented testimony on the allocation of purchased gas costs, FERC Order No. 636 transition costs and least cost gas procurement on behalf of the Pennsylvania Office of Consumer Advocate.

Dauphin Consolidated Water Supply Company and General Waterworks of Pennsylvania, Inc. (Pennsylvania Public Utility Docket No. R-00932604), June 1993. Presented testimony addressing test year net operating income on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00932548), July 1993. Presented testimony addressing test year revenues and FERC Order No. 636 transition costs on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Supply Corporation (Federal Energy Regulatory Commission Docket No. RP93-73-000), July 1993. Presented testimony addressing test year throughput and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00932674), July 1993. Presented testimony on the allocation of purchased gas costs, FERC Order No. 636 transition costs and least cost gas procurement on behalf of the Pennsylvania Office of Consumer Advocate.

Sierra Pacific Power Company, Gas Operations (Nevada Public Service Commission Docket No. 93-4087), September 1993. Presented testimony on the allocation of purchased gas costs to electric and gas operations on behalf of the Nevada Office of Consumer Advocate.

Ohio Gas Company (Public Utilities Commission of Ohio, Case No. 93-14-GA-GCR), October 1993. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00932927), March 1994. Presented testimony on transportation service balancing requirement modifications and service enhancements in response to FERC Order No. 636 on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00932885), April 1994. Presented testimony addressing the allocation of purchased gas costs, FERC Order No. 636 transition costs, incentive rate mechanisms, and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00943028), April 1994. Presented testimony addressing the allocation of purchased gas costs, FERC Order No. 636 transition costs, take-or-pay costs, incentive rate mechanisms and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Citizens Gas & Coke Utility (Indiana Utility Regulatory Commission, Cause No. 37399-GCA41), May 1994. Presented testimony addressing the allocation and recovery of Order No. 636 transition costs on behalf of the Indiana Utility Consumer Counselor.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00943064), July 1994. Presented testimony addressing the allocation of purchased gas costs and incentive rate mechanisms on behalf of the Pennsylvania Office of Consumer Advocate.

National Gas & Oil Corporation (Public Utilities Commission of Ohio, Case No. 94-221-GA-GCR), October 1994. Co-authored report on audit of management and performance of gas procurement activity on behalf of the Public Utilities Commission of Ohio.

Trans Louisiana Gas Company (Louisiana Public Service Commission, Docket No. U-19997), November 1994. Presented testimony addressing the results of a Commission-ordered investigation into the purchased gas adjustment clause of Trans Louisiana Gas Company on behalf of the Louisiana Public Service Commission Staff.

NorAm Gas Transmission Company (Federal Energy Regulatory Commission Docket No. RP94-343-000), March 1995. Presented testimony addressing rate design billing determinants and the treatment of revenues associated with short term firm, interruptible and other services on behalf of the Arkansas and Louisiana Public Service Commissions.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00953297), May 1995. Presented testimony addressing the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00953318), May 1995. Presented testimony addressing the acquisition of capacity resources, transportation balancing charges, performance-based incentive programs and lost and unaccounted-for and company use gas.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00953299), June 1995. Presented testimony addressing storage working capital requirements, heating degree days to be utilized for weather normalization purposes and sponsored a class cost of service on behalf of The Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00953374), July 1995. Presented testimony addressing the acquisition of interstate pipeline capacity and the allocation of purchased gas costs on behalf of The Pennsylvania Office of Consumer Advocate.

Atlanta Gas Light Company (Georgia Public Service Commission Docket No. 5650-U), August 1995. Presented testimony addressing operations of the Company's purchased gas adjustment mechanism and gas procurement practices and policies on behalf of the Georgia Consumers' Utility Counsel.

United Cities Gas Company (Georgia Public Service Commission Docket No. 5651-U), August 1995. Presented testimony addressing the allocation of purchased gas costs on behalf of the Georgia Consumers' Utility Counsel.

Eastern and Pike Natural Gas Companies (Public Utilities Commission of Ohio, Case Nos. 95-215-GA-GCR and 95-216-GA-GCR), September 1995. Co-authorized report on audit of management and performance of gas procurement activity on behalf of the Public Utilities Commission of Ohio.

Tennessee Gas Pipeline Company (Federal Energy Regulatory Commission Docket No. RP95-112-000), September 1995. Presented testimony addressing rate design determinants and revenues associated with long term firm, short term firm and interruptible services on behalf of the Pennsylvania Office of Consumer Advocate.

North Shore Gas Company and Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 95-0490 and 95-0491), January 1996. Presented testimony evaluating performance-based rate programs for purchased gas costs on behalf of the Citizens Utility Board.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00953487), March 1996. Presented testimony addressing incentive rate mechanisms, the allocation of purchased gas costs and unauthorized service on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00963563), May 1996. Presented testimony addressing the allocation of purchased gas costs and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

North Penn Gas Company and PFG Gas, Inc. (Pennsylvania Public Utility Docket No. R-00963636), July 1996. Presented testimony addressing the recovery of excess interstate pipeline capacity costs on behalf of the Pennsylvania Office of Consumer Advocate.

Dayton Power & Light Company (Public Utilities Commission of Ohio, Case No. 96-220-GA-GCR), September 1996. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

West Ohio Gas Company (Public Utilities Commission of Ohio, Case No. 96-221-GA-GCR), November 1996. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

Northern Illinois Gas Company (Illinois Commerce Commission Docket No. 96-0386), November 1996. Presented testimony evaluating performance-based rate programs for purchased gas costs on behalf of the Citizens Utility Board.

National Fuel Gas Distribution (Pennsylvania Public Utilities Commission Docket No. R-00963779), March 1997. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utilities Commission Docket No. R-00973895), May 1997. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

Southwest Gas Corporation (Nevada Public Service Commission Docket No. 97-2005), June 1997. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Nevada Office of Consumer Advocate.

Kent County Water Authority, (Rhode Island Public Utilities Commission Docket No. 2555), June 1997. Presented class cost of service testimony on behalf of the Division of Public Utilities and Carriers.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00974012), July 1997. Presented testimony on the allocation of purchased gas costs, and the computation of off-system sales margins and margin sharing procedures on behalf of the Pennsylvania Office of Consumer Advocate.

Pennsylvania American Water Company (Pennsylvania Public Utility Docket No. R-00973944), July 1997. Presented class cost of service and rate design testimony on behalf of the Pennsylvania Office of Consumer Advocate.

Commonwealth Gas Services, Inc. (Virginia State Corporation Commission Case No. PUE970455), August 1997. Presented testimony addressing the Company's retail unbundling pilot program on behalf of the Division of Consumer Counsel, Office of the Attorney General.

Consumers Pennsylvania Water Company, Shenango Valley Division (Pennsylvania Public Utility Docket No. R-00973972), September 1997. Presented class cost of service and rate design testimony on behalf of the Pennsylvania Office of Consumer Advocate.

Sierra Pacific Power Company, Water Department (Nevada Public Service Commission Docket No. 97-9020), January 1998. Presented class cost of service and rate design testimony on behalf of the Nevada Utility Consumers' Advocate.

Southern Union Gas Company (City of El Paso, Texas) Inquiry into Southern Union Gas Company's Purchased Gas Adjustment Clause, March 1998. Presented testimony addressing the reasonableness of the Company's gas procurement practices and policies on behalf of the City of El Paso, Texas.

East Ohio Gas Company (Public Utilities Commission of Ohio Case No. 97-219-GA-GCR), March 1998. Co-authored report on the Company's residential and small commercial pilot transportation program on behalf of the Public Utilities Commission of Ohio.

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 98-222-GA-GCR), March 1998. Co-authored report on the Company's residential and small commercial pilot transportation program on behalf of the Public Utilities Commission of Ohio.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00974167), March 1998. Presented testimony on the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Pawtucket Water Supply Board (Rhode Island Public Utilities Commission Docket No. 2674), April 1998. Presented class cost of service testimony on behalf of the Division of Public Utilities and Carriers.

Equitable Gas Company (Pennsylvania Public Utilities Commission Docket No. R-00984279), May 1998. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

East Ohio Gas Company (Public Utilities Commission of Ohio Case No. 97-219-GA-GCR), May 1998. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00984352), July 1998. Presented testimony on the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP98-203-000), October 1998. Presented testimony addressing delivery point imbalance tolerance levels on behalf of the Northern Municipal Distributors Group and the Midwest Region Gas Task Force Association.

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 98-223-GA-GCR), January 1999. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

North Shore Gas Company and Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 98-0819 and 98-0820), February 1999. Presented testimony addressing proposals to adopt fixed gas cost charges on behalf of the Citizens Utility Board.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00984497), March 1999. Presented testimony addressing the allocation of purchased gas costs, gas price projections and the appropriate level of capacity entitlements on behalf of the Pennsylvania Office of Consumer Advocate.

Delmarva Power and Light Company (Delaware Public Service Commission Docket No. 98-524), March 1999. Presented testimony addressing the Company's customer choice pilot program on behalf of the Division of Public Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00994600), May 1999. Presented testimony addressing the contracting for interstate pipeline capacity and the obligation to serve on behalf of the Pennsylvania Office of Consumer Advocate.

Nicor Gas Company (Illinois Commerce Commission Docket No. 99-0127), May 1999. Presented testimony addressing performance-based rates for purchased gas costs on behalf of the Citizens' Utility Board.

Elizabethtown Gas Company, New Jersey Natural Gas Company, Public Service Electric & Gas Company and South Jersey Gas Company (New Jersey Board of Public Utilities Docket Nos. GX99030121 - GO99030125), July 1999. Presented testimony addressing the assignment of capacity by gas utilities to third-party suppliers and the recovery of stranded costs resulting from the unbundling of gas utility services on behalf of the Ratepayer Advocate.

New Jersey Natural Gas Company (New Jersey Board of Utilities Docket No. G099030122), July 1999. Presented testimony addressing the unbundling of gas utility services on behalf of the Ratepayer Advocate.

Carnegie Natural Gas Company (Pennsylvania Public Utility Commission Docket No. C-00970942), September 1999. Presented testimony addressing the design of sales and transportation rates on behalf of the Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00994782), September 1999. Presented testimony addressing the unbundling of gas utility services on behalf of the Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00994784), October 1999. Presented testimony addressing the unbundling of gas utility services on behalf of the Office of Consumer Advocate.

City of Newport-Water Division (Public Utilities Commission of Rhode Island Docket No. 2985), December 1999. Presented testimony addressing cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

Entergy Gulf States, Inc. (Public Utilities Commission of Texas Docket No. 2111), December 1999. Presented testimony addressing the recovery of purchased power and purchased gas costs on behalf of certain Cities served by Entergy Gulf States, Inc.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00994785), December 1999. Presented testimony addressing gas supply, unbundling and rate design restructuring issues on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. - Gas Division (Pennsylvania Public Utility Commission Docket No. R-00994786), December 1999. Presented testimony addressing gas supply, unbundling and rate design restructuring issues on behalf of the Pennsylvania office of Consumer Advocate.

Cincinnati Gas & Electric Company (Public Utilities Commission) of Ohio Case No. 99-218-GA-GCR), January 2000. Co-authored report on management performance audit of gas purchasing practices on behalf of the Public Utilities Commission of Ohio.

T.W. Phillips Gas and Oil Company (Pennsylvania Public Utility Commission Docket No. R-00994790), April 2000. Presented testimony addressing gas supply, unbundling and rate design restructuring issues on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00994898), April 2000. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00005067), May 2000. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

PECO Energy Company (Pennsylvania Public Utility Commission Docket No. R-00005285), July 2000. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. -- Gas Division (Pennsylvania Public Utility Commission Docket No. R-00005281), July 2000. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Providence Water Supply Board (Public Utilities Commission of Rhode Island Docket No. 3163), October 2000. Presented testimony addressing cost allocation and rate design on behalf of the Division of Public Utilities and Carriers.

Nicor Gas Company (Illinois Commerce Commission Docket Nos. 00-0620/00-0621), December 2000. Presented testimony addressing customer choice on behalf of the Citizens Utility Board.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00005832), April 2001. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00016115), May 2001. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00016132), May 2001. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Dayton Power & Light Company (Public Utilities Commission of Ohio Case No. 00-220-GA-GCR), May 2001. Co-authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

UGI Utilities, Inc. -- Gas Division (Pennsylvania Public Utility Commission Docket No. R-00016376), July 2001. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Shore Gas Company (Illinois Commerce Commission Docket No. 01-0469), September 2001. Presented testimony addressing gas supply, unbundling and restructuring customer choice issues on behalf of the Citizens Utility Board, Cook County State's Attorney's Office and the People of the State of Illinois.

The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket No. 01-0470), September 2001. Presented testimony addressing gas supply, unbundling and restructuring customer choice issues on behalf of the Citizens Utility Board, Cook County State's Attorney's Office and People of the State of Illinois.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-00016898), March 2002. Presented testimony addressing gas cost procurement practices and cost allocations on behalf of Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00016789), April 2002. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Illinois Gas Company (Illinois Commerce Commission Docket No. 02-0067), April 2002. Presented testimony addressing performance based gas cost incentive program on behalf of the Citizens Utility Board and Cook County State's Attorney's Office.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00027134), May 2002. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00027135), May 2002. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. -- Gas Division (Pennsylvania Public Utility Commission Docket No. R-00027388), July 2002. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

The Cincinnati Gas & Electric Company (Public Utilities Commission of Ohio Case No. 01-218-GA-GCR), July 2002. Co-authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-00027888), March 2003. Presented testimony addressing gas cost procurement practices and cost allocations on behalf of Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00038101), April 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00038170), May 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00038166), May 2003 Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. – Gas Division (Pennsylvania Public Utility Docket No. R-00038411), July 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 02-221-GA-GCR), July 2003. Co-authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket No. 01-0707), July 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Citizens Utility Board.

UGI Utilities, Inc. – Gas Division (Pennsylvania Public Utility Commission Docket No. R-00049422), July 2004. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

PFG, Inc. and North Penn Gas Company (Pennsylvania Public Utility Docket No. R-00049424), July 2004. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

East Ohio Gas Company (Public Utilities Commission of Ohio Case No. 03-219-GA-GCR), August 2004. Co-authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

Southwest Gas Corporation (Nevada Public Services Commission Docket No. 04-6001), September 2004. Presented testimony addressing gas procurement practices on behalf of the Nevada Office of Consumer Advocate.

Northern Natural Gas Company (FERC Docket No. RP04-155-000), November 2004. Presented testimony on billing determinant to be used for rate design on behalf of the Northern Municipal Distributors Group and Midwest Region Gas Task Force Association.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 41338-GCA6), January 2005. Presented testimony addressing storage inventory pricing on behalf of the Indiana Office of Utility Consumer Counselor.

Citizens Gas & Coke Utility (Indiana Utility Regulatory Commission Cause No. 37399-GCA84-S1), February 2005. Presented testimony addressing gas exchange transactions on behalf of the Indiana Office of Utility Consumer Counselor.

Nicor Gas Company (Illinois Commerce Commission Docket No. 04-0779), February 2005. Presented testimony and addressing storage inventory carrying charges on behalf on the Citizens Utility Board and the Cook Country States' Attorney's Office.

Heartland Gas Pipeline, LLC and Citizens Gas & Coke Utility (Indiana Utility Regulatory Commission Cause Nos. 42729 and 42730), March 2005. Presented testimony addressing the petition of Heartland for a certificate of public convenience and necessity to construct an intrastate pipeline, and the petition of Citizens for approval of a storage service agreement on behalf of the Indiana Office of Utility Consumer Counselor.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-00040059), March 2005. Presented testimony addressing gas cost procurement practices and cost allocations on behalf of Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00050216), March 2005. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Columbia Gas of Pennsylvania (Pennsylvania Public Utility Commission Docket No. R-00049783, May 2005. Presented testimony addressing fixed price sales services on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00050267), May 2005. Presented testimony addressing gas cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00050272), May 2005. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

PECO Energy Company and Public Service Electric and Gas Company (Pennsylvania Public Utility Commission Docket No. A-110550F0160), June 2005. Presented testimony addressing issues related to the post-merger structure of the gas procurement function on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. – Gas Division (Pennsylvania Public Utility Commission Docket No. R-00050539), July 2005. Presented testimony addressing gas procurement practices and gas cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

PPL Gas Utilities Corporation (Pennsylvania Public Utility Docket No. R-00050540), July 2005. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Utilities, Inc. (Maine Public Utilities Commission Docket No. 2005-87), July 2005. Presented testimony on gas cost allocation and the assignment of interstate pipeline capacity on behalf of the Maine Office of the Public Advocate.

Southwest Gas Corporation (Nevada Public Services Commission Docket No. 05-5015), September 2005. Presented testimony addressing purchased gas cost recovery rates on behalf of the Nevada Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 41338-GCA7), December 2005. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Indiana Office of Utility Consumer Counselor.

Indiana Gas Company, Southern Indiana Gas and Electric and Citizens Gas & Coke Utility (Indiana Utility Regulatory Commission Cause No. 42973), February 2006. Presented testimony addressing gas cost allocation on behalf of the Indiana Office of Utility Consumer Counselor.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-00000051134), March 2006. Presented testimony addressing gas cost procurement practices and cost allocations on behalf of Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-61246), March 2006. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Cincinnati Gas & Electric Company (Public Utilities Commission of Ohio Case No. 05-218-GA-GCR), April 2006. Authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00061301), May 2006. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00061295), May 2006. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Atmos Energy Corporation (Louisiana Public Service Commission Docket No. U-27703), May 2006. Authored report on audit of gas purchasing practices and cost allocation on behalf of the Staff of the Louisiana Public Service Commission.

UGI Utilities, Inc. -- Gas Division (Pennsylvania Public Utility Commission Docket No. R-00061502), July 2006. Presented testimony addressing gas procurement practices on behalf of the Pennsylvania Office of Consumer Advocate.

PPL Gas Utilities Corporation (Pennsylvania Public Utility Docket No. R-00061519), July 2006. Presented testimony addressing gas procurement practices on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Resources Inc./The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. A-122250F500), September 2006. Presented testimony addressing gas costs issues in this merger proceeding on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Regulatory Utility Commission Cause No. 41338-GCA8), October 2006. Presented testimony addressing reported gas costs and gas cost incentive mechanism results on behalf of the Indiana Office of Utility Consumer Counselor.

North Shore Gas Company/The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 05-0748 and 05-0749), January 2007. Presented testimony addressing gas cost issues on behalf of the Citizens Utility Board and the City of Chicago.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00072043), March 2007. Presented testimony addressing the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utilities Commission Docket No. R-00072111), May 2007. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00072109), May 2007. Presented testimony addressing gas procurement practices and policies and fuel retention charge discounting on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-0072335), July 2007. Presented testimony on gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Docket No. R-00072334), July 2007. Presented testimony on gas procurement practices and policies on behalf of Pennsylvania Office of Consumer Advocate.

North Shore Gas Company/The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 07-0241 and 07-0242), July 2007. Presented testimony addressing the allocation of on-system storage on behalf of the Citizens Utility Board and City of Chicago.

Providence Water Supply Board (Public Utilities Commission of Rhode Island Docket No. 3832), July 2007. Addressed cost of service and rate design on behalf of the Division of Public Utilities and Carriers.

Dominion East Ohio Gas Company (Public Utility Commission of Ohio Case No. 07-219-GA-GCR), November 2007. Authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

Northern Indiana Public Service Company (Indiana Regulatory Utility Commission Cause No. 41338-GCA9), December 2007. Presented testimony addressing the reasonableness of reported gas costs and evaluating the results of the gas cost incentive mechanisms under which the company operates on behalf of the Indiana Office of Utility Commission Counselor.

Aqua Pennsylvania, Inc. (Pennsylvania Public Utility Commission Docket No. R-00072711), February 2008. Presented testimony addressing cost of service, rate design and purchased water rider on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utilities Commission Docket No. R-2008-2012502), March 2008. Presented testimony addressing design day forecasting and transportation service balancing charges on behalf of the Pennsylvania Office of Consumer Advocate.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-2008-2013026), March 2008. Presented testimony addressing the disposition of capacity release revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-2008-2021160), May 2008. Presented testimony addressing exchange transactions on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2008-2039417), July 2008. Presented testimony addressing capacity release and off-system sales revenue sharing and the acquisition of incremental capacity on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2008-2039284), July 2008. Presented testimony addressing the acquisition of incremental capacity on behalf of the Pennsylvania Office of Consumer Advocate.

North Shore Gas Company/The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 06-0751 and 07-0311/06-752 and 07-0312), July 2008. Presented testimony addressing park and loan activities and out-of-period gas cost adjustments on behalf of the Citizens Utility Board and the City of Chicago.

Pawtucket Water Supply Board (Public Utilities Commission of Ohio Docket No. 3945), July 2008. Presented testimony addressing class cost of service and rate design on behalf of the Division of Public Utilities and Carriers

Philadelphia Water Department (Philadelphia Water Commission FY 2009-2012 Rates), July 2008. Presented testimony addressing water and waste water class cost of service and rate design on behalf of the Public Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 41338-GCA10), March 2009. Presented testimony addressing gas procurement and incentive mechanism issues on behalf of the Office of Utility Consumer Counselor.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 41338-GCA11), December 2009. Presented testimony addressing gas procurement and incentive mechanism issues on behalf of the Office of Utility Consumer Counselor.

City of Newport (Public Utilities Commission of Rhode Island), January 2010. Presented testimony sponsoring a water cost of service study on behalf of the Division of Public Utilities and Carriers.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utilities Commission Docket No. R-2010-2150861), March 2010. Presented testimony addressing design day forecasting and transportation service balancing charges on behalf of the Pennsylvania Office of Consumer Advocate.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-2009-2145441), March 2010. Presented testimony addressing capacity release revenues and retainage on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP10-148), May 2010. Presented testimony addressing rate discounts on behalf of the Northern Municipal Distributors Group and Midwest Region Gas Task Force Association.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-2010-2155608), May 2010. Presented testimony addressing retainage and design peak day forecasting issues on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-2010-2155613), May 2010. Presented testimony addressing design peak day forecasting, balancing charges and off-system sales on behalf of the Pennsylvania Office of Consumer Advocate.

PECO Energy Company – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2010-2161592), June 2010. Presented testimony addressing base rate cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2010-2172933), July 2010. Presented testimony addressing supplier reservation charges and capacity assignment on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2010-2172928), July 2010. Presented testimony addressing supplier reservation charges and capacity assignment on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. 2010-2172922), July 2010. Presented testimony addressing the assignment of capacity on behalf of the Pennsylvania Office of Consumer Advocate.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-2010-2167797), August 2010. Presented testimony addressing base rate cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

North Shore Gas Company/The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 07-0576 and 07-0577), October 2010. Presented testimony addressing the reasonableness and allocation of purchased gas costs on behalf of the Citizens Utility Board.

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 10-221-GA-GCR), November 2010. Authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA16), November 2010. Presented testimony addressing gas procurement and incentive mechanism issues on behalf of the Office of Utility Consumer Counselor.

Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-2010-2201702), January 2011. Presented testimony addressing base rate cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. A-2010-221389), February, 2011. Presented testimony addressing the transfer of facilities to an affiliate on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2010-2214415), April 2011. Presented testimony addressing base rate cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-2011-2228694), May 2011. Presented testimony addressing retainage and lost and unaccounted-for gas issues on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-2011-2223563), May 2011. Presented testimony addressing retainage issues on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2011-2238953), July 2011. Presented testimony addressing design peak day forecasting, winter season planning criteria and capacity RFP process on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2011-2238943), July 2011. Presented testimony addressing design peak day forecasting, winter season planning criteria and capacity RFP process on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. 2011-2238949), July 2011. Presented testimony addressing the Company's winter season planning criteria and capacity RFP process on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Utilities, Inc. (Maine Public Utilities Commission Docket No. 2011-92), August 2011. Presented testimony addressing cost allocation and rate design on behalf of the Maine Public Advocate.

United Water Rhode Island, Inc. (Public Utilities Commission of Rhode Island Docket No. 4255), September 2011. Presented testimony addressing cost allocation and rate design on behalf of the Division of Public Utilities and Carriers.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA20), November 2011. Presented testimony addressing gas procurement and incentive mechanism issues on behalf of the Office of Utility Consumer Counselor.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utilities Commission Docket No. R-2012-2281465), March 2012. Presented testimony addressing design day forecasting, the allocation of capacity costs and pipeline penalties on behalf of the Pennsylvania Office of Consumer Advocate.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-2011-2273539), March 2012. Presented testimony addressing the reconciliation of gas costs and revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Philadelphia Gas Works (Pennsylvania Public Utility Commission Docket No. R-2012-2286447), April 2012. Presented testimony addressing interstate pipeline capacity and gas supply contracting practices on behalf of the Pennsylvania Office of Consumer Advocate.

Cleco Power LLC (Louisiana Public Service Commission Docket No. U-30955), April 2012. Co-authored Report auditing the reasonableness of the fuel costs of Cleco on behalf of the LPSC Staff.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-2012-2292082), May 2012. Presented testimony addressing retainage charges on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-2012-2287044), May 2012. Presented testimony addressing the crediting of asset management arrangement fees and the allocation of capacity costs on behalf of the Pennsylvania Office of Consumer Advocate.

Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-2012-2285985), May 2012. Presented testimony addressing gas cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

PECO Energy Company (Pennsylvania Public Utility Commission Docket No. R-2012-2302784), June 2012. Presented testimony addressing the procurement of long-term fixed price gas supplies on behalf of the Pennsylvania Office of Consumer Advocate.

City of Woonsocket Water Division (Public Utilities Commission of Rhode Island Docket No. 4320), June 2012. Presented testimony addressing water cost of service and rate design on behalf of the Division of Public Utilities and Carriers.

UGI Utilities, Inc. – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2012-2302220), July 2012. Presented testimony addressing design peak day forecasting and the assignment of interstate pipeline capacity on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2012-2302221), July 2012. Presented testimony addressing design peak day forecasting and the sharing of capacity release revenues on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2012-2314224); UGI Utilities, Inc. – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2012-2314235); and UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2012-2314247), October 2012. Presented testimony addressing Gas Procurement Charges on behalf of the Pennsylvania Office of Consumer Advocate.

Duke Energy Ohio, Inc. (Public Utilities Commission of Ohio Case No. 12-218-GA-GCR), November 2012. Authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

City of Newport (Public Utilities Commission of Rhode Island Docket No. 4355), December 2012. Presented testimony addressing water cost of service on behalf of Division of Public Utilities and Carriers.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-24), December 2012. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-25), January 2013. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

PECO Energy Company (Pennsylvania Public Utility Commission Docket No. R-2012-2328614), January 2013. Presented testimony addressing tariff filing to establish a Gas Procurement Charge on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company, LLC (Pennsylvania Public Utility Commission Docket No. R-2012-2333983), February 2013. Presented testimony addressing tariff filing to establish a Gas Procurement Charge and a Merchant Function Charge on behalf of the Pennsylvania Office of Consumer Advocate.

Philadelphia Gas Works (Pennsylvania Public Utility Commission Docket No. R-2012-2333993), February 2013. Presented testimony addressing tariff filing to establish a Gas Procurement Charge and a Merchant Function Charge on behalf of the Pennsylvania Office of Consumer Advocate.

Chesapeake Utilities Corporation (Delaware Public Service Commission Docket No. 12-450F), March 2013. Presented testimony addressing lost and unaccounted for gas, and the allocation of upstream interstate pipeline capacity on behalf of the Delaware Public Service Commission.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-2013-2341534), March 2013. Presented testimony addressing design day forecasting and the allocation of capacity costs on behalf of the Pennsylvania Office of Consumer Advocate.

Delmarva Power & Light Company (Public Service Commission of the State of Delaware Docket No. 12-419F), March 2013. Presented testimony addressing interstate pipeline capacity and gas supply contracting practices on behalf of the Delaware Public Service Commission.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-26), April 2013. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Philadelphia Gas Works (Pennsylvania Public Utility Commission Docket No. R-2013-2346376), April 2013. Presented testimony addressing interstate pipeline capacity and gas supply contracting practices on behalf of the Pennsylvania Office of Consumer Advocate.

Peoples Natural Gas, LLC (Pennsylvania Public Utility Commission Docket No. R-2013-2350914), May 2013. Presented testimony addressing retainage charges on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-27), July 2013. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Peoples TWP, LLC (Pennsylvania Public Utility Commission Docket No. R-2013-2355886), July 2013. Presented testimony addressing gas cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2013-2361763), July 2013. Presented testimony addressing the reconciliation of gas costs and revenues on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2013-2361771), July 2013. Presented testimony addressing the contracting for interstate pipeline capacity and the reconciliation of gas costs and revenues on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2013-2361764), July 2013. Presented testimony to addressing the contracting for interstate pipeline capacity and the reconciliation of gas costs and revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Citizens Water (Indiana Utility Regulatory Commission Cause No. 44306), July 2013. Presented testimony addressing water cost of service and rate design on behalf of the Indiana Office of Utility Consumer Counselor.

Washington Gas Light Company (Public Service Commission of Maryland Case No. 9322), July 2013. Presented testimony addressing cost of service, rate design and other tariff changes on behalf of the Office of People's Counsel.

CWA Authority, Inc. (Indiana Utility Regulatory Commission Cause No. 44305), August 2013. Presented testimony addressing wastewater cost of service and rate design on behalf of the Indiana Office of Utility Consumer Counselor.

Providence Water Supply Board (Public Utilities Commission of Rhode Island Docket No. 4406), August 2013. Presented testimony addressing water class cost of service and rate design on behalf of the Division of Public Utilities and Carriers.

The York Water Company (Pennsylvania Public Utility Commission Docket No. R-2012-2336379), September 2013. Presented testimony addressing water cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-28), October 2013. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Nicor Gas Company (Illinois Commerce Commission Docket No. 03-0703), November 2013. Presented testimony addressing the reconciliation of purchase gas costs on behalf of the Citizens Utility Board.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-29), January 2014. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

City of Michigan City, Indiana (Indiana Utility Regulatory Commission Cause No. 44538), January 2014. Presented testimony addressing water cost allocation and rate design on behalf of the Office of Utility Consumer Counselor.

Delmarva Power & Light Company (Public Service Commission of the State of Delaware Docket No. 13-349F), February 2014. Presented testimony addressing interstate pipeline capacity and gas supply contracting practices on behalf of the Delaware Public Service Commission.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-2014-2399610), March 2014. Presented testimony addressing design day forecasting and the allocation of capacity costs on behalf of the Pennyslvania Office of Consumer Advocate.

Atmos Energy Corporation (Louisiana Public Service Commission Docket No. U-32987), April 2014. Presented testimony addressing modifications to the Company's Rate Stabilization Clause.

Peoples Natural Gas, LLC (Pennsylvania Public Utility Commission Docket No. R-2014-2403939), April 2014. Presented testimony addressing the allocation of interstate pipeline capacity charges and balancing charges on behalf of the Pennsylvania Office of Consumer Advocate.

Philadelphia Gas Works (Pennsylvania Public Utility Commission Docket No. R-2014-2404355), April 2014. Presented testimony addressing the crediting of interstate pipeline capacity release revenues, gas supply put contracts, and the treatment of daily imbalance surcharges and cash-outs on behalf of the Pennsylvania Office of Consumer Advocate.

Chesapeake Utilities Corporation (Delaware Public Service Commission Docket No. 13-351F), May 2014. Presented testimony addressing lost and unaccounted for gas, and the allocation of upstream interstate pipeline capacity on behalf of the Delaware Public Service Commission.

Equitable Gas Company, LLC (Pennsylvania Public Utility Commission Docket No. R-2014-2403935), May 2014. Presented testimony addressing standby charges, balancing charges, and the price-to-compare on behalf of the Pennsylvania Office of Consumer Advocate.

Indiana American Water Company (Indiana Utility Regulatory Commission Cause No. 44450), May 2014. Presented testimony addressing water cost of service and rate design on behalf of the Indiana Office of Utility Consumer Counselor.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-30), May 2014. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Indiana-American Water Company, Inc. (Indiana Utility Regulatory Commission Cause No. 44450), May 2014. Presented testimony addressing cost allocation and rate design on behalf of the Indiana Office of Utility Consumer Counselor.

Chattanooga Gas Company (Tennessee Regulatory Authority Docket No. 07-00224), July 2014. Prepared a report reviewing the Company's performance-based ratemaking mechanism on behalf of the Tennessee Regulatory Authority and Consumer Advocate and Protection Division of the Tennessee Attorney General.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-31), July 2014. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2014-2420279), July 2014. Presented testimony to addressing affiliated pipeline charges on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2014-2420273), July 2014. Presented testimony addressing affiliated pipeline charges on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2014-2420276), July 2014. Presented testimony addressing the contracting for interstate pipeline capacity and the reconciliation of gas costs and revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Duke Energy Ohio (Public Utilities Commission of Ohio Case No. 14-841-EL-SSO), September 2014. Presented testimony addressing proposed Distribution Capital Investment Rider and Distribution Storm Rider on behalf of the Office of the Ohio Consumer's Counsel.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-32), October 2014. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Chesapeake Utilities Corporation (Delaware Public Service Commission Docket No. 13-383), December 2014. Presented testimony addressing lost and unaccounted for gas, and the allocation of excess upstream interstate pipeline capacity costs and balancing charges on behalf of the Delaware Public Service Commission and the Division of Public Advocate.

Chesapeake Utilities Corporation (Delaware Public Service Commission Docket No. 14-0299), January 2015. Presented testimony addressing lost and unaccounted for gas, and the allocation of upstream interstate pipeline capacity on behalf of the Delaware Public Service Commission and the Division of Public Advocate.

Delmarva Power & Light Company (Public Service Commission of the State of Delaware Docket No. 14-0295F), January 2015. Presented testimony addressing interstate pipeline capacity and gas supply contracting practices on behalf of the Delaware Public Service Commission and the Division of Public Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-33), January 2015. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-2015-2461373), March 2015. Presented testimony addressing balancing charges, off-system sales, and interstate pipeline capacity on behalf of the Pennsylvania Office of Consumer Advocate.

Vectren Energy of Indiana (Indiana Utility Regulatory Commission Cause No. 37394-GCA-124S1), March 2015. Presented testimony addressing administration of the Company's gas cost incentive mechanism on behalf of the Office of Utility Consumer Counselor.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-34), April 2015. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Peoples Natural Gas, LLC and Peoples Natural Gas Company, LLC-Equitable Division (Pennsylvania Public Utility Commission Docket No. R-2015-2465172 and R-2015-2465181), April 2015. Presented testimony addressing the allocation of interstate pipeline capacity charges and balancing charges, storage accounting, and design day on behalf of the Pennsylvania Office of Consumer Advocate.

Philadelphia Gas Works (Pennsylvania Public Utility Commission Docket No. R-2015-2465656), April 2015. Presented testimony addressing the interstate pipeline capacity and cash-out imbalance reconciliation procedures on behalf of the Pennsylvania Office of Consumer Advocate.

Delmarva Power & Light Company (Delaware Public Service Commission), May 2015. Co-authored an Assessment Report of the Potential Benefits of Electric Service Aggregation for Delmarva Power & Light Company's Residential and Small Commercial Customers.

Columbia Gas of Pennsylvania (Pennsylvania Public Utility Commission, Docket No. R-2015-2468056), June 2015. Presented testimony addressing cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

Pawtucket Water Supply Board (Public Utilities Commission of Rhode Island Docket No. 4550), June 2015. Presented testimony addressing water class cost of service and rate design on behalf of the Division of Public Utilities and Carriers.

Questar Gas Company (Public Service Commission of Utah. Docket No. M-057-31), July 2015. Presented testimony addressing transportation balancing charges on behalf of the Utah Office of Consumer Services.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2015-2480937), July 2015. Presented testimony addressing capacity contracting and LNG cost recovery on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2015-2480934), July 2015. Presented testimony addressing design day forecasting and the recovery of LNG costs on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2015-2480950), July 2015. Presented testimony addressing interstate pipeline capacity contracting and the evaluation of alternative design day capacity resources on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-35), July 2015. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-36), October 2015. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Citizens Water (Indiana Utility Regulatory Commission Cause No. 44644), October 2015. Presented testimony addressing water cost of service and rate design on behalf of the Indiana Office of Utility Consumer Counselor.

Duke Energy Ohio, Inc. (Public Utilities Commission of Ohio Case No. 15-218-GA-GCR), December 2015. Authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA-37), January 2016. Presented testimony addressing the assignment and sharing of capacity release revenues, administration of the Company's gas cost incentive mechanism, and gas procurement activity on behalf of the Office of Utility Consumer Counselor.

Delmarva Power & Light Company (Public Service Commission of the State of Delaware Docket No. 15-1355), January 2016. Presented testimony addressing interstate pipeline capacity and gas supply contracting practices on behalf of the Delaware Public Service Commission and the Division of Public Advocate.

Chesapeake Utilities Corporation (Delaware Public Service Commission Docket No. 15-1362), January 2016. Presented testimony addressing lost and unaccounted for gas, and the allocation of upstream interstate pipeline capacity on behalf of the Delaware Public Service Commission and the Division of Public Advocate.

CWA Authority, Inc. (Indiana Utility Regulatory Commission Cause No. 44685), January 2016. Presented testimony addressing cost allocation and rate design on behalf of the Indiana Office of Utility Consumer Counselor.

Philadelphia Water Department (Philadelphia Water Board, Fiscal Years 2017-2018 Rates), March 2016. Presented testimony addressing water, wastewater, and stormwater cost allocation and rate design on behalf of the Public Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-2016-2521819), March 2016. Presented testimony addressing the acquisition of interstate pipeline firm transportation capacity on behalf of the Pennsylvania Office of Consumer Advocate.

Peoples TWP, LLC (Pennsylvania Public Utility Commission Docket No. R-2016-2528557), March 2016. Presented testimony addressing retainage charges on behalf of the Pennsylvania Office of Consumer Advocate.

Community Utilities of Indiana, Inc. (Indiana Utility Regulatory Commission Cause No. 44644), April 2016. Presented testimony addressing cost allocation and rate design on behalf of the Indiana Office of Utility Consumer Counselor.

City of Newport, Rhode Island (Public Utilities Commission of Rhode Island Docket No. 4595), April 2016. Presented testimony addressing class cost of service on behalf of the Division of Public Utilities and Carriers.

Columbia Gas of Pennsylvania (Pennsylvania Public Utility Commission Docket No. P-2016-2521993), April 2016. Presented testimony addressing the filing for a waiver of the statutory Distribution System Improvement Charge cap of five percent of billed revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 43629-GCA-38), April 2016. Presented testimony addressing the gas costs reported for the period December 2015 through February 2016 focusing on evaluation of the gas cost incentive mechanism. Also, addressed whether gas procurement practices and policies were reasonable and consistent with least cost procurement standards during the review period on behalf of the Indiana Office of Utility Consumer Counselor.

Peoples and Equitable Divisions of the Peoples Natural Gas Company, LLC (Pennsylvania Public Utility Commission Docket No. R-2016-2528562 and R-2016-2529260), May 2016. Presented testimony addressing the discounting of retainage charges on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas Inc. (Pennsylvania Public Utility Commission Docket No. R-2016-2543311), June 2016. Presented testimony addressing the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2016-2543314), June 2016. Presented testimony addressing the allocation of purchased gas cost on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. (Pennsylvania Public Utility Commission Docket No. R-2016-2543309), June 2016. Presented testimony addressing the acquisition of peaking services on behalf of the Pennsylvania Office of Consumer Advocate.

Eversource Energy (Massachusetts Department of Public Utilities Docket No. 15-181) June 2016. Presented testimony addressing the petition for approval of two, 20-year gas transportation service agreements to support electric generation on behalf of the Attorney General's Office.

National Grid (Massachusetts Department of Public Utilities Docket No. 16-05) June 2016. Presented testimony addressing the petition for approval of two, 20-year gas transportation service agreements to support electric generation on behalf of the Attorney General's Office.

Columbia Gas of Pennsylvania (Pennsylvania Public Utility Commission Docket No. R-2016-2529660), June 2016. Presented testimony addressing class cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas of Pennsylvania (Pennsylvania Public Utility Commission Docket No. P-2016-2537609), July 2016. Presented testimony addressing the filing for a waiver of the statutory Distribution System Improvement Charge cap of five percent on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. P-2016-2537594), July 2016. Presented testimony addressing the filing for a waiver of the statutory Distribution System Improvement Charge cap of five percent of billed revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Community Utilities of Pennsylvania Inc. Water Division (Pennsylvania Public Utility Commission Docket No. R-2016-2538660), July 2016. Presented testimony addressing rate design on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 43629-GCA-39), July 2016. Presented testimony addressing the gas costs reported for the period March through May 2016 focusing on evaluation of the gas cost incentive mechanism. Also, addressed whether gas procurement practices and policies were reasonable and consistent with least cost procurement standards during the review period on behalf of the Indiana Office of Utility Consumer Counselor.

Chesapeake Utilities Corporation (Public Service Commission of the State of Delaware Docket No. 15-1734) August 2016. Presented testimony addressing the cost of service study and rate design on behalf of the Delaware Public Service Commission.

Kent County Water Authority (Public Utilities Commission of Rhode Island Docket No. 4611), September 2016. Presented testimony addressing class cost of service and rate design on behalf of the Division of Public Utilities and Carriers.

Entergy Gulf States Louisiana, LLC (Louisiana Public Service Commission Docket No. U-32245), September 2016. Presented testimony addressing the fuel adjustment clause of Entergy Louisiana, LLC on behalf of the Louisiana Public Service Commission.

Providence Water Supply Board (Public Utilities Commission of Rhode Island Docket No. 4618), October 2016. Presented testimony addressing class cost of service and rate design on behalf of the Division of Public Utilities and Carriers.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 43629-GCA-40), October 2016. Presented testimony addressing the gas costs reported for the period June through August 2016 focusing on evaluation of the gas cost incentive mechanism. Also, addressed whether gas procurement practices and policies were reasonable and consistent with least cost procurement standards during the review period on behalf of the Indiana Office of Utility Consumer Counselor.

James Black Water Service Company, (Pennsylvania Public Utility Commission Docket No. R-2013-2395443), November 2016. Presented testimony addressing the evaluation of the James Black Water Service Company application to begin to offer, render, furnish and supply water service in Jefferson Township, Pennsylvania on behalf of the Pennsylvania Office of Consumer Advocate.

Duquesne Light Company (Pennsylvania Public Utility Commission Docket No. P-2016-2540046), November 2016. Presented testimony addressing the design of the Company's Distribution System Improvement Charge on behalf of the Pennsylvania Office of Consumer Advocate.

Citizens' Electric Company of Lewisburg, PA & Wellsboro Electric Company (Pennsylvania Public Utility Commission Docket Nos. R-2016-2531550 & R-2016-2531551), December 2016. Presented testimony addressing class cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

Delmarva Power & Light Company (Public Service Commission of the State of Delaware Docket No. 16-0889) January 2017. Presented testimony addressing the reasonableness of the Company's gas procurement practices and policies on behalf of the Delaware Public Service Commission.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 43629-GCA-41), January 2017. Presented testimony addressing the gas costs reported for the period September through November 2016 focusing on evaluation of the gas cost incentive mechanism. Also, addressed whether gas procurement practices and policies were reasonable and consistent with least cost procurement standards during the review period on behalf of the Indiana Office of Utility Consumer Counselor.

Chesapeake Utilities Corporation (Public Service Commission of the State of Delaware Docket No. 16-0908) February 2017. Presented testimony addressing the reasonableness of the Company's gas procurement practices and policies on behalf of the Delaware Public Service Commission and Division of the Public Advocate.

Entergy Gulf States Louisiana, LLC (Louisiana Public Service Commission Docket No. U-34298), March 2017. Presented testimony addressing the appropriate rate recovery method for the expenses associated with the dry cask storage of spent nuclear fuel and the refund/ratemaking treatment for the damage awards received on behalf of the Louisiana Public Service Commission.

CWA Authority, Inc. (Indiana Utility Regulatory Commission Cause No. 44685-S1), March 2017. Presented testimony addressing cost allocation and rate design on behalf of the Indiana Office of Utility Consumer Counselor.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-2017-2582461), March 2017. Presented testimony addressing rate design on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 43629-GCA-42), April 2017. Presented testimony addressing the gas costs reported for the period December 2016 through February 2017 focusing on evaluation of the gas cost incentive mechanism. Also, addressed whether gas procurement practices and policies were reasonable and consistent with least cost procurement standards during the review period on behalf of the Indiana Office of Utility Consumer Counselor.

Peoples TWP, LLC (Pennsylvania Public Utility Commission Docket No. R-2017-2586317), May 2017. Presented testimony addressing retainage on behalf of the Pennsylvania Office of Consumer Advocate.

Peoples Natural Gas Company, LLC Peoples and Equitable Divisions (Pennsylvania Public Utility Commission Docket Nos. R-2017-2586310 and R-2017-2586318), May 2017. Presented testimony addressing retainage on behalf of the Pennsylvania Office of Consumer Advocate.

Peoples TWP, LLC (Pennsylvania Public Utility Commission Docket No. R-2017-2587526), April 2017. Presented testimony addressing least cost gas procurement practices on behalf of the Pennsylvania Office of Consumer Advocate.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Jerome D. Mierzwa, hereby state that the facts above set forth in my Direct Testimony, OCA Statement No. 3, are true and correct and that I expect 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).

Signature: ______________________
Jerome D. Mierzwa

Consultant Address: Exeter Associates, Inc.
Suite 300
10480 Little Patuxent Parkway
Columbia, MD 21044

DATED: May 16, 2017
233094.docx

OCA Statement No. 3-R

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC
UTILITY COMMISSION

v.

Docket No. R-2017-2586783

PHILADELPHIA GAS WORKS

REBUTTAL TESTIMONY OF

JEROME D. MIERZWA

ON BEHALF OF THE
PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 9, 2017

EXETER
ASSOCIATES, INC.
10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

EXHIBIT
R-2017-2586783
OCA Statement No. 3-R
6.28.17 CP PHL

TABLE OF CONTENTS

I. INTRODUCTION

Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?

A. My name is Jerome D. Mierzwa. I am a Principal and Vice President of Exeter Associates, Inc. ("Exeter"). My business address is 10480 Little Patuxent Parkway, Suite 300, Columbia, Maryland 21044. Exeter specializes in providing public utility-related consulting services.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. The purpose of my rebuttal testimony is to respond to the direct testimony of Office of Small Business Advocate ("OSBA") witness Robert B. Knecht; Retail Energy Supply Association ("RESA") witnesses Anthony Cusati III and Orland (Randy) Magnani; Philadelphia Industrial and Commercial Gas Users Group ("PICGUG") witness Richard A. Baudino; and Temple University witness Kurt Bresser.

Q. BEFORE CONTINUING, DO YOU HAVE ANY REVISIONS TO YOUR DIRECT TESTIMONY?

A. Yes. PGW has claimed that the class cost of service study ("CCOSS") that it filed in this proceeding was based on a proprietary model and, therefore, was unwilling to provide a copy of the CCOSS in Excel format. Providing the CCOSS in Excel format would have allowed the parties to make any modifications to the Company's study that a party found appropriate. In lieu of providing an Excel version of the CCOSS, PGW agreed to re-running the CCOSS pursuant to a party's specifications. In data request I&E-RS-21-D, the Company was asked to re-run its CCOSS model allocating distribution mains investment and costs 50 percent based on design day demands and 50 percent on annual throughput. In my direct testimony, I sponsored the Company's response to I&E-RS-21-D as the OCA's Peak & Average CCOSS.

During my review of the intervening parties' direct testimony, I discovered that the Company had not correctly re-run its CCOSS pursuant to the specifications in I&E-RS-21-D. More specifically, the Company allocated 50 percent of distribution mains investment and costs based on firm throughput rather than total throughput. Pursuant to the OCA's request, the Company has re-run its CCOSS to allocate 50 percent of distribution mains investment and costs based on total throughput rather than firm throughput. I have revised Schedule JDM-1 in my direct testimony to reflect the results of the Company's CCOSS pursuant to the original specifications in I&E-RS-21-D. A Revised Schedule JDM-1 is included as an attachment to my rebuttal testimony. It is also necessary for me to revise Table 3 from my direct testimony which is inserted below. I would note that I am not proposing to modify my recommended distribution of the revenue increase authorized by the Commission in this proceeding. This is because the corrected Peak & Average CCOSS continues to support my original distribution of the revenue increase.

Table 3. Revised
Class Rates of Return
PGW Peak & Average Cost-of-Service Study Results at Present Rates – 50/50 Demand/Annual Allocation

Class	Rate of Return	Index
Residential	6.3%	1.34
Commercial	7.4	1.57
Industrial	6.0	1.28
PHA GS	5.6	1.19
Municipal/PHA	(0.1)	0.02
NGVS	(1.5)	0.32
Interruptible Sales	(14.2)	(3.02)
GTS/IT	(9.9)	(2.10)
System	**4.7%**	**1.00**

II. <u>OFFICE OF SMALL BUSINESS ADVOCATE</u>

Witness: Robert K. Knecht

Q. MR. KNECHT CONTENDS THAT IN A CCOSS, DISTRIBUTION MAINS INVESTMENT AND COSTS SHOULD BE ALLOCATED TO CLASS BASED ON DESIGN PEAK DAY DEMANDS RATHER THAN THE 50 PERCENT DESIGN PEAK DAY DEMAND/50 PERCENT AVERAGE DAILY DEMAND APPROACH RECOMMENDED IN YOUR DIRECT TESTIMONY. DO YOU AGREE?

A. No. An allocation of distribution mains costs based solely on design peak day demands results in a mis-allocation of costs. Mr. Knecht agrees that the underlying principle of a CCOSS is to assign costs to rate classes based on cost causation. As I explain in greater detail in my direct testimony, if an allocation of distribution mains costs on the basis of design peak demands was in accordance with the principle of cost-causality, then the demand for natural gas under design peak day weather conditions would need to be the only cause for the existence and customer utilization of PGW's distribution system. The design peak day demand utilized by Mr. Knecht in his CCOSS (and in PGW's CCOSS) is based on a day with a 1-day-in-30-year probability of occurrence. If PGW's customers had a demand for gas only on days that occur once every 30 years, there would not be a PGW gas distribution system and there would be no costs to allocate. The basic reason why gas utilities like PGW invest in their distribution system is to meet the annual demands for gas by end users. Without sufficient annual gas usage over which to amortize the annual costs of providing service, there would be no gas distribution system. A portion of the total cost of distribution service is attributable to installing a system with enough capacity to meet design peak day demands in excess of annual demands. Because distribution mains exist and the associated costs are related to both annual and design peak demands, both annual and design peak demands must be recognized in the allocation of distribution mains costs if the allocation of these costs I to be in accordance with the principle of cost causality.

As also noted in my direct testimony, design peak day demands are not directly considered in PGW's mains extension policy and investment decision making process. Annual delivery charge revenues are the primary consideration in PGW's distribution mains extension and investment decision making process. Therefore, it would be inconsistent with cost causation principles not to recognize average daily demands in the allocation of distribution mains costs.

Q. MR. KNECHT CLAIMS THAT RECENT COMMISSION PRECEDENT FOR ELECTRIC DISTRIBUTION COMPANIES ("EDCs"), WHERE HE CLAIMS THAT THE CONCEPTUAL ARGUMENTS REGARDING COST CAUSATION ARE SIMILAR, SUPPORT THE RECOGNITION OF A CUSTOMER COMPONENT OF JOINT-USE DISTRIBUTION PLANT. WHAT IS YOUR RESPONSE?

A. Witness Knecht has failed to recognize that the mains extension policies of NGDCs like PGW are different from the line extension policies of EDCs. Under PGW's line extension policy, PGW is under no obligation to extend its distribution mains unless the annual revenues expected to be realized from the extension exceed the amount of the related investment over a specified period of time. Therefore, there is no customer component of distribution mains for PGW and annual volumes are the primary cost-causation factor to be considered. PPL Electric Utilities Corporation ("PPL"), the EDC cited by Mr. Knecht, is required to extend its distribution lines to a customer located up to 500 feet from PPL's current distribution lines at no cost, and annual volumes are not a primary cost-causation factor.[1] Therefore, cost causation for extensions for NGDCs and EDCs are not similar as Mr. Knecht contends.

Q. PLEASE DESCRIBE PGW'S UNIVERSAL SERVICE PROGRAMS AND THE PROPOSED RECOVERY OF THOSE COSTS THROUGH RATES.

A. PGW has three universal service programs for low-income customers: a customer assistance program for low-income customers (the Customer Responsibility Program or "CRP"), a conservation program for low-income customers (alternatively called the CRP Home Comfort Program, Enhanced Low-Income Retrofit Program, and the Conservation Works Program), and a grandfathered Senior Citizen Discount ("SCD") program. The costs for these programs are recovered through a volumetric charge called the Universal Service and Energy Conservation Surcharge ("USEC"). The USEC is currently assessed to all firm service customers. It does not currently apply to interruptible sales customers or to transportation customers taking GTS/IT service. The total annual cost of PGW's universal service programs is approximately $55 million. PGW is proposing to continue its current USEC mechanism for recovery of universal service costs.

Q. DOES MR. KNECHT BELIEVE THAT THE CURRENT USEC COST RECOVERY APPROACH IS REASONABLE?

A. No. Mr. Knecht claims that the current approach is not reasonable because it recovers the costs associated with PGW's universal service programs from non-residential customers that are not eligible to participate in the program. Mr. Knecht recommends that the USEC be assessed only to Residential customers. The reasonableness of the USEC cost recovery approach is addressed by OCA witness Roger Colton.

[1] PPL Electric Tariff, 10th Revised Page No. 8.

Q. WHAT WOULD BE THE IMPACT OF MR. KNECHT'S PROPOSAL TO ASSESS THE USEC SOLELY TO RESIDENTIAL CUSTOMERS?

A. Mr. Knecht's proposal would allocate an additional $15 million to Residential customers.

Q. MR. KNECHT CLAIMS THAT PGW'S CCOSS REFLECTS A VARIETY OF MAJOR AND MINOR COST MISALLOCATIONS THAT ARE INCONSISTENT WITH NORMAL COST ALLOCATION PRACTICE. DO YOU HAVE ANY COMMENTS ON ANY OF THESE CLAIMED INCONSISTENCIES?

A. Yes. Mr. Knecht claims that Account 877 Operating Expense for Measuring and Regulating Equipment (Citygate) and Account 891 Maintenance of Measuring and Regulating Equipment should be allocated based on peak demands. As I noted in my direct testimony, the plant related accounts for these operation and maintenance expenses (Accounts 377 and 378) should be allocated consistent with the allocation of distribution mains since the investment in these accounts supports distribution mains system operations. The operation and maintenance expenses in Accounts 877 and 891 should be allocated based on Peak & Average demands consistent with the related plant accounts.

Q. DO YOU AGREE WITH MR. KNECHT'S PROPOSED DISTRIBUTION OF THE REVENUE INCREASE AUTHORIZED BY THE COMMISSION IN THIS PROCEEDING?

A. No. Mr. Knecht's proposed revenue distribution is based on his CCOSS. As just explained, Mr. Knecht's CCOSS is not based on cost causation principals and, therefore, should be given no consideration in determining the revenue distribution in this proceeding.

Q. IN RESPONSE TO AN OSBA DISCOVERY REQUEST, MR. KNECHT NOTES THAT PGW INCORRECTLY INCLUDED SOME OF THE UNCOLLECTIBLE COSTS ASSOCIATED WITH THE CRP IN THE MERCHANT FUNCTION CHARGE AND PGW SUBSEQUENTLY REVISED ITS PROPOSED MERCHANT FUNCTION CHARGE. HOW DOES THIS IMPACT THE MERCHANT FUNCTION CHARGE RECOMMENDATION PRESENTED IN YOUR DIRECT TESTIMONY?

A. As shown below, I have revised Table 7 from my direct testimony to reflect PGW's corrections provided in response to OSBA-1-26.

Table 7 Revised

Class Merchant Function Charges

Class	PGW	OCA
Residential	3.76%	3.58%
Commercial	0.62%	0.59%
Industrial	0.39%	0.37%

III. RETAIL ENERGY SUPPLY ASSOCIATION

Witness: Orlando (Randy) Magnani

Q. MR. MAGNANI CLAIMS THAT THE CURRENT $75 PER DTH PENALTY FOR NOT DELIVERING ENOUGH GAS ON A DAY ON WHICH THE COMPANY HAS DECLARED AN OPERATIONAL FLOW ORDER ("OFO") IS TOO HIGH, AND RECOMMENDS A CHARGE OF $25 PER DTH. DO YOU AGREE WITH THIS PROPOSAL?

A. No. PGW would typically issue an OFO during periods of peak demand and would do so to maintain system reliability. The failure of a supplier to deliver sufficient gas to PGW's citygate during an OFO could threaten system reliability. During peak periods, the market price of gas delivered to PGW (citygate supplies) often increases significantly to prices in excess of \$25 per Dth. Decreasing the penalty to \$25 per Dth would provide suppliers the incentive to not deliver gas supplies during an OFO when market prices exceeded \$25 per Dth. Index prices published in natural gas trade journals or available from other trading platforms like the Intercontinental Exchange reflect market prices for gas. An index price applicable for PGW citygate supplies would be Texas Eastern Transmission ("Tetco") Market Zone 3 ("M-3") index prices. Tetco M-3 index prices have reached as high as \$80 per Dth in recent history. To ensure system reliability is maintained and suppliers deliver sufficient gas during an OFO, rather than adopt a \$25 per Dth penalty as Mr. Magnani recommends, a penalty of \$25 per Dth plus the applicable daily Tetco M-3 index price should be assessed to ensure system reliability is maintained.

Q. MR. MAGNANI RECOMMENDS THAT THE CURRENT MONTHLY DELIVERY IMBALANCE TOLERANCE BE INCREASED FROM ± 2.5 PERCENT TO ± 5.0 PERCENT. WHAT IS YOUR RESPONSE?

A. The current ± 2.5 percent monthly imbalance tolerance has been in place since at least 2010 and has not been shown to be unreasonable or unrealistic to attain. The use of interstate pipeline storage assets is necessary for PGW to accommodate monthly imbalances. The current ± 2.5 percent monthly imbalance tolerance should not be increased unless a cost-based charge is implemented for the storage assets that would be used to accommodate the more lenient imbalance tolerance. Since Mr. Magnani has proposed no such charge, the ± 5 percent monthly tolerance should not be approved.

Witness: Anthony Cusati

Q. WHAT IS MR. CUSATI'S CONCERN WITH PGW'S GAS PROCUREMENT CHARGE ("GPC")?

A. Mr. Cusati is concerned that PGW may have not included all of the appropriate costs in calculating the GPC because PGW is proposing to reduce the charge from $0.04 per Mcf to $0.0228 per Mcf. He recommends that PGW provide more information on its GPC calculation and that in the meantime, a state average GPC of $0.08 per Mcf be adopted.

Q. WHAT IS YOUR RESPONSE TO MR. CUSATI?

A. This Commission does not set rates for one NGDC based on the costs of other NGDCs and, therefore, Mr. Cusati's recommendation should be rejected. If Mr. Cusati believes PGW has failed to include all of the appropriate costs in its GPC, it is his responsibility to identify those costs and he has thus far failed to do so.

IV. PHILADELPHIA INDUSTRIAL AND COMMERCIAL GAS USERS GROUP ("PICGUG")

Witness: Richard A. Baudino

Q. MR. BAUDINO CLAIMS THAT DISTRIBUTION MAINS COSTS SHOULD BE CLASSIFIED AS BOTH DEMAND AND CUSTOMER RELATED IN A CCOSS. DO YOU AGREE?

A. No. As explained in significant detail in my direct testimony, allocating distribution mains costs based on the number of customers is inconsistent with cost causation principles.

Q. MR. BAUDINO ALSO CLAIMS THAT IT IS NOT APPROPRIATE TO ALLOCATE A PORTION OF DISTRIBUTION MAINS COSTS BASED ON THROUGHPUT, OR ANNUAL DEMANDS. DO YOU AGREE?

A. No. Again, as explained in significant detail in my direct testimony and in my response to Mr. Knecht, allocating a portion of distribution mains costs based on annual demands is consistent with cost causation principles.

Q. MR. BAUDINO CRITICIZES PGW'S PROPOSED 59 PERCENT INCREASE IN IT RATES AS INCONSISTENT WITH THE CONCEPT OF GRADUALISM. DO YOU HAVE ANY COMMENTS AND COULD YOU PUT INTO PERSPECTIVE THE INCREASE PROPOSED BY THE OCA FOR IT CUSTOMERS WITH THE INCREASE PROPOSED BY THE OCA FOR THE OTHER CLASSES SERVED BY PGW?

A. Yes. First, the 59 percent increase proposed by PGW is to IT customer delivery rates. Mr. Baudino's claim of a 59 percent increase ignores revenues collected through customer charges, which PGW has not proposed to increase. Second, Table 2-R presents the increase proposed by the OCA for each category of IT service with the increase proposed for the other customer classes served by PGW. As shown in Table 2-R, the per Mcf increase proposed by the OCA for IT customers is significantly less than the per Mcf increase proposed for the other primary customer classes and incorporates the concept of gradualism.

Table 2-R Comparison of OCA Proposed Rate Increases (Mcf)		
	Average Proposed Rate	**Increase**
Interruptible Service		
IT-A	$2.96	$0.63
IT-B	$1.58	$0.28
IT-C	$1.14	$0.23
IT-D	$0.94	$0.23
IT-E	$0.85	$0.23
Firm Service		
Residential	$12.74	$1.54
Commercial	$8.36	$0.96
Industrial	$8.36	$1.12
PHA GS	$10.61	$1.59
Municipal/PHA	$7.39	$1.47

Q. MR. BAUDINO CLAIMS THAT IT CUSTOMERS MUST INSTALL AND MAINTAIN ALTERNATE FUEL CAPABILITY IN ORDER TO RECEIVE SERVICE UNDER THE IT RATE SCHEDULE. WHAT IS YOUR RESPONSE?

A. Mr. Baudino claims that alternate fuel capability is a significant additional cost that IT customers incur that firm customers do not incur. According to PGW's tariff, a customer can qualify for IT service if it has installed operable alternate fuel equipment or can demonstrate the ability to manage its business without the use of gas during periods of curtailment or interruption (Original Page No. 112, Item 2). Therefore, it is not necessary for a customer to have alternate fuel capability to receive IT service.

Q. MR. BAUDINO RECOMMENDS A SYSTEM AVERAGE INCREASE FOR IT CUSTOMERS. WHAT IS YOUR RESPONSE?

A. As shown in Schedule JDM-1 Revised, the GTS/IT class, which includes IT customers, is providing a return that is significantly below the indicated cost of service. Schedule JDM-1 Revised indicates that at present rates, the GTS/IT customer class is providing a relative rate of return of .39 of the cost of service computed to the system average relative rate of return of 1.00. Schedule JDM-1 Revised also indicates that the GTS/IT customer class would require an increase in rates of 195.5 percent to generate revenues sufficient to recover its cost of service compared to a required system average increase of 14.1 percent. Therefore, a higher than system average increase is appropriate for IT customers.

Q. MR. BAUDINO CLAIMS THAT PGW HAS FAILED TO SHOW THAT IT CUSTOMERS ARE NOT PAYING THEIR FAIR SHARE OF SYSTEM COSTS. WHAT IS YOUR RESPONSE?

A. As just explained and shown on Schedule JDM-1 Revised, the GTS/IT customer class is paying significantly less than its share of system costs.

Q. MR. BAUDINO CLAIMS THAT THE COMMISSION SHOULD CONTINUE A COST OF SERVICE APPROACH FOR RATE IT SERVICE RATHER THAN A VALUE OF SERVICE APPROACH. DO YOU AGREE?

A. PGW is proposing to negotiate distribution rates for IT service within a specified range with the high end of the range being the equivalent of firm transportation rates. There are customers with alternatives to the delivery system and to the extent that the negotiations around these competitive alternatives to delivery service can result in more competitive pricing, it would be consistent with the goal of regulation. [2] Moreover, as indicated in Schedule JDM-1 Revised, the GTS/IT is currently

[2] James C. Bonbright, *et al.*, *Principles of Public Utility Rates*, p.141 (Second Edition, 1988).

contributing significantly less in revenues than the indicated cost of service. Adopting a policy of negotiating rates for IT service will likely reduce the difference between IT revenues and the IT cost of service more quickly than the traditional base rate setting process.

V. TEMPLE UNIVERSITY

Witness: Kurt Bresser

Q. MR. BRESSER CLAIMS THAT PGW'S CURRENT FIRM TRANSPORTATION RATES DO NOT CONSTITUTE FIRM TRANSPORTATION RATES BECAUSE THE RATE IS THE SAME DELIVERY CHARGE ASSESSED TO FIRM SALES CUSTOMERS. DO YOU AGREE?

A. No. It is common for NGDCs to assess the same delivery charges to both sales and transportation customers within the same class. The cost of providing delivery service to a customer is the same regardless of whether the customer purchases their gas supplies from PGW or a natural gas supplier.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

OCA Statement No. 3-R

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC
UTILITY COMMISSION

v.

Docket No. R-2017-2586783

PHILADELPHIA GAS WORKS

REBUTTAL TESTIMONY OF

JEROME D. MIERZWA

ON BEHALF OF THE
PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 9, 2017

PHILADELPHIA GAS WORKS
Allocated Class COS-Study - Full Projected Future Test Year Ended Agusut 31, 2018 - OCA Peak & Average Class Cost of Service Study
Schedule JDM-1: Summary of Allocation Results

		Total	Residential	Commercial	Industrial	PHA GS	Municipal/PHA	NGVS	Interruptible Sales	GTS/IT
AT CURRENT RATES										
Total Revenue	[l]	491,318	385,244	77,365	5,903	1,499	8,859	20	18	12,410
Share of Revenue, by Class	[2]	100.0%	78.4%	15.7%	1.2%	0.3%	1.8%	0.0%	0.0%	2.5%
Total Operating Expenses	[3]	435,420	330,378	65,469	5,192	1,291	8,879	21	34	24,156
Share of Operating Expenses, by Class	[4]	100.0%	75.9%	15.0%	1.2%	0.3%	2.0%	0.0%	0.0%	5.5%
Income Before Interest & Surplus	[5] [l]-[3]	55,898	54,866	11,896	711	208	(20)	(1)	(17)	(11,746)
Interest & Surplus	[6]	125,013	91,389	16,953	1,238	390	2,512	5	12	12,514
Current Revenue Over(Under) Requirements	[7] [5]-[6]	(69,115)	(36,523)	(5,057)	(527)	(182)	(2,532)	(6)	(29)	(24,260)
Total Revenue Requirement*	[8] [11]- [7]	560,433	421,767	82,422	6,430	1,681	11,391	26	48	36,670
Revenue Increase for Full Cost of Service	[9]	14.1%	9.5%	6.5%	8.9%	12.1%	28.6%	28.1%	162.9%	195.5%
Rate Base	[10]	1,188,371	868,738	161,157	11,764	3,707	23,882	47	116	118,960
Return on Rate Base Before Inerest & Surplus	[11] [5] / [10]	4.7%	6.3%	7.4%	6.0%	5.6%	(0.1%)	(1.5%)	(14.2%)	(9.9%)
Relative Return	[12]	1.00	1.34	1.57	1.28	1.19	(0.02)	(0.32)	(3.02)	(2.10)
Revenues Relative to COS	[13] [1] / [8]	**0.88**	**0.91**	**0.94**	**0.92**	**0.89**	**0.78**	**0.78**	**0.38**	**0.34**
Relative to Total for all Classes	[14]	1.00	1.04	1.07	1.05	1.02	0.89	0.89	0.43	0.39
AFTER PROPOSED INCREASE										
Proposed Increase (decrease)	[15]	70,000	53,175	10,000	910	265	2,200	0	0	3,450
Share of Proposed Increase, by Class	[16]	100.0%	76.0%	14.3%	1.3%	0.4%	3.1%	0.0%	0.0%	4.9%
Total Distribution Revenue with Increase	[17] [1] + [15]	561,317.8	438,419.0	87,365.0	6,813.0	1,764.0	11,059.0	20.3	17.5	15,860.0
Increase(Decrease)%	[18] [15] / [1]	14.2%	13.8%	12.9%	15.4%	17.7%	24.8%	0.0%	0.0%	27.8%
Income Before Interest & Surplus	[19] [5] + [15]	125,898	108,041	21,896	1,621	473	2,180	(1)	(17)	(8,296)
Return on Rate Base Before Interest & Surplus	[20] [19]/ [10]	10.6%	12.4%	13.6%	13.8%	12.8%	9.1%	(1.5%)	(14.2%)	(7.0%)
Relative Return	[21]	1.00	1.17	1.28	1.30	1.20	0.86	(0.14)	(1.34)	(0.66)
Revenues Relative to COS	[22] [17] /[8]	1.00	1.04	1.06	1.06	1.05	0.97	0.78	0.38	0.43
Percent of System Average Increase	[23]	100%	97%	91%	108%	124%	174%	0%	0%	195%

* The Total Revenue Requirement is equal to the Tariff Requirement plus the revenues that PGW collects from customer installations, interest income, and certain LNG sales.

EXHIBIT
R-2017-2586783
Schedule
OCA JDM-1 Rev.
6/28/17 EP PLh

PENGAD 800-631-6989

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Jerome D. Mierzwa, hereby state that the facts above set forth in my Rebuttal Testimony, OCA Statement No. 3-R, are true and correct and that I expect 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).

Signature: ______________________
Jerome D. Mierzwa

Consultant Address: Exeter Associates, Inc.
Suite 300
10480 Little Patuxent Parkway
Columbia, MD 21044

DATED: June 9, 2017
234339.docx

OCA Statement No. 3-S

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

SURREBUTTAL TESTIMONY OF

JEROME D. MIERZWA

ON BEHALF OF THE

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 22, 2017

EXETER

ASSOCIATES, INC.

10480 Little Patuxent Parkway, Suite 300

Columbia, Maryland 21044

TABLE OF CONTENTS

I. INTRODUCTION

Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?

A. My name is Jerome D. Mierzwa. I am a Principal and Vice President of Exeter Associates, Inc. ("Exeter"). My business address is 10480 Little Patuxent Parkway, Suite 300, Columbia, Maryland 21044. Exeter specializes in providing public utility-related consulting services.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY.

A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony of PGW witnesses Philip Q. Hanser, Douglas A. Moser, and Florian Teme; Office of Small Business Advocate ("OSBA") witness Robert B. Knecht; Philadelphia Industrial and Commercial Gas Users Group ("PICGUG") witness Richard A. Baudino; and Temple University witness Kurt Bresser.

Q. BEFORE CONTINUING, ARE THERE ANY CLARIFICATIONS TO YOUR REBUTTAL TESTIMONY YOU WOULD LIKE TO IDENTIFY?

A. Yes. In my rebuttal testimony, I noted that the Company did not correctly re-run its class cost of service study ("CCOSS") pursuant to the specifications initially requested in I&E-RS-21-D. That is, the Company had re-run its CCOSS allocating distribution mains investment and costs 50 percent based on firm annual throughput rather than based on total (firm and interruptible) annual throughput. Pursuant to the OCA's request, PGW revised its CCOSS to reflect the specifications initially requested in I&E-RS-21-D, allocating distribution mains investment and costs 50 percent based on total annual throughput. However, rather than providing a revised response to I&E-RS-21-D, the Company included its revised run of the I&E-RS-21-D CCOSS as a revised response to OCA-VII-7. The Company as of this date has not revised its original response to I&E-RS-21-D. I would further note that OCA-VII-7 initially requested additional modifications to the Company's filed CCOSS that were not included in PGW's revised response to OCA-VII-7.

II. PHILADELPHIA GAS WORKS

Witness: Philip Q. Hanser

Q. MR. HANSER DISAGREES WITH YOUR RECOMMENDATION TO LIMIT THE INCREASE IN THE RESIDENTIAL CUSTOMER CHARGE TO THE SAME OVERALL PERCENTAGE INCREASE AUTHORIZED BY THE COMMISSION IN THIS PROCEEDING. WHAT IS YOUR RESPONSE?

A. Mr. Hanser claims that PGW's current Residential monthly customer charge has been fixed at $12 per month since 2001, and that the Company's proposal to increase the charge to $18 implies an increase of less than 2.6 percent per year. However, PGW has not been increasing its Residential customer charge by 2.6 percent per year since 2001. PGW is proposing a 50 percent increase in its Residential customer charge all at one time, which is certainly inconsistent with the concept of gradualism. The fact that PGW's proposed $6 per month, 50 percent increase in the monthly Residential charge would be a 2.6 percent annual increase if the customer charge increased annually since 2001 does nothing to mitigate the magnitude of the proposed increase or promote rate stability and predictability.

Mr. Hanser also claims that I have provided no evidence to support my contention that a higher monthly customer charge will impact customer conservation efforts. Mr. Hanser's claim ignores basic economic concepts. A higher customer charge results in lower delivery charges, and higher delivery charges provide customers a greater economic incentive to pursue conservation efforts than lower delivery charges.

Q. MR. HANSER CLAIMS IT IS NOT APPROPRIATE TO RECLASSIFY ANY PORTION OF MAINS-RELATED COSTS AS COMMODITY-RELATED, AND IT IS APPROPRIATE TO ALLOCATE MAINS-RELATED COSTS BASED ON BOTH THE NUMBER OF CUSTOMERS AND ON PEAK (DESIGN DAY) DEMANDS. WHAT IS YOUR RESPONSE?

A. As indicated in my direct testimony, it is appropriate to allocate a portion of mains-related costs based on peak demands. I also explain in great length in my direct testimony that it is inconsistent with the principle of cost causation to allocate mains investment based on the number of customers. It is unnecessary to repeat all those reasons here. In PGW's last litigated base rate case in Docket No. R-0061931, this Commission found that mains allocations based on the number of customers are not acceptable. Mr. Hanser has not presented any evidence to support a finding that such an allocation is acceptable.

Q. ON PAGE 8 OF PGW STATEMENT NUMBER 5-R, MR. HANSER CLAIMS THAT "THE VOLUME OF GAS TRANSPORTED IN THE SYSTEM IS NOT WHAT DRIVES PGW'S NEED FOR INVESTMENT IN DISTRIBUTION MAINS." DO YOU AGREE?

A. No. As discussed in my direct testimony, under PGW's main extension policy, PGW invests in mains extensions when annual gas consumption is significant enough to generate revenues that would justify the investment. As such, annual volumes are the most significant cost causation factor on the PGW system. Therefore, the volume of gas transported on the system does drive PGW's need for investment in distribution mains. In presenting this claim, Mr. Hanser reiterates this position that a portion of mains investment is customer related. Mr. Hanser's rebuttal testimony provides the same justification for allocating mains investment based on the number of customers that he previously presented in his direct testimony. Since these claims were fully addressed in my direct testimony, there is no need to address those claims again.

Witness: Douglas A. Moser

Q. MR. MOSER INDICATES THAT PGW HAS NO OBJECTION TO SUBMITTING REPORTS CONCERNING RATE BUS, BUT IT IS UNCLEAR HOW THE TED RIDER REPORTING REQUIREMENTS YOU RECOMMEND WOULD BE APPLIED SINCE THEY ARE TAILORED FOR A PILOT PROGRAM. WHAT IS YOUR RESPONSE?

A. Since Rate BUS is not a pilot program and the Company has agreed to offer the TED Rider on a three-year pilot program basis, I recommend that PGW be required to comply with the TED Rider reporting requirements for Rate BUS after three years.

Q. MR. MOSER PROPOSES TO ADDRESS YOUR GAS COST CONCERNS REGARDING RATE BUS BY SUBMITTING A REPORT WITHIN ONE YEAR FOLLOWING THE ENTRY OF AN ORDER IN THIS PROCEEDING SETTING FORTH THE USAGE, RATE, AND COST DATA FOR CUSTOMERS PARTICIPATING IN RATE BUS. WOULD THIS ADDRESS YOUR CONCERN?

A. Yes, provided PGW continues to track this information and made it available in the Company's annual gas cost rate review proceedings.

Q. MR. MOSER DISAGREES WITH YOUR PROPOSAL TO BEGIN NEGOTIATING RATE IT RATES AFTER ONE YEAR RATHER THAN

AFTER THREE YEARS AS PROPOSED BY PGW. WHAT IS YOUR RESPONSE?

A. Mr. Moser has identified a number of benefits associated with the Company's negotiated IT rate proposal. Mr. Moser provides no basis for delaying implementation of negotiated IT rates beyond one year. Therefore, there is no basis to defer the benefits of PGW's negotiated IT rate proposal for an additional two years.

Witness: Florian Teme

Q. MR. TEME ACCEPTS THE OCA'S PROPOSAL TO IMPLEMENT THE TED RIDER AS A THREE-YEAR PILOT PROGRAM, AND THE RECOMMENDED REPORTING REQUIREMENTS. HOWEVER, HE DISAGREES WITH YOUR RECOMMENDATION TO INCLUDE TED RIDER CUSTOMERS AS A SUB-CLASS IN THE COMPANY'S NEXT CCOSS. WHAT IS YOUR RESPONSE?

A. In response to Mr. Teme's concerns and the Company's willingness to include the economics of the program in the supporting information accompanying a base rate filing, the OCA accepts PGW's proposal.

Q. MR. TEME DISAGREES WITH YOUR RECOMMENDATION TO IMPLEMENT THE COMPANY'S PROPOSED MICRO-CHP INCENTIVE PROGRAM AS A THREE-YEAR PILOT RATHER THAN A FIVE-YEAR PILOT AS PROPOSED BY PGW. WHAT IS YOUR RESPONSE?

A. In response to Mr. Teme's concerns, the OCA is amenable to implementing the Micro-CHP Incentive Program as a five-year pilot program.

III. OFFICE OF SMALL BUSINESS ADVOCATE

Witness: Robert D. Knecht

Q. BEFORE ADDRESSING THE DETAILS OF MR. KNECHT'S REBUTTAL TESTIMONY, PLEASE EXPLAIN THE DIFFERENCE BETWEEN THE OCA'S PEAK AND AVERAGE ("P&A") METHOD AND THE AVERAGE AND EXCESS ("A&E") METHOD OF ALLOCATING DISTRIBUTION MAINS INVESTMENT SUPPORTED BY MR. KNECHT.

A. Under the OCA's P&A method, 50 percent of distribution mains investment is allocated based on peak (design) day demands and 50 percent is allocated based on average day demands. Under Mr. Knecht's A&E method, 50 percent of distribution mains investment is allocated based on the difference, or excess, of peak day demands over average daily demands, and 50 percent is allocated based on average daily demands. For example, if the average daily demand of a customer class was 30 Mcf and the peak daily demand of that class was 100 Mcf, the excess of peak over average daily demands would be 70 Mcf, and 70 Mcf would be used to allocate the 50 percent of distribution mains investment being allocated based on excess demands. Under this example using the P&A method, 50 percent of distribution mains investment would be allocated based on average daily demands of 30 Mcf, and the remaining 50 percent would be allocated based on peak day demands of 100 Mcf.

Q. MR. KNECHT NOTES THAT IN HIS DIRECT TESTIMONY, HE RELIES ON THE A&E METHOD TO ALLOCATE DISTRIBUTION MAINS INVESTMENT AND COSTS. DO YOU HAVE ANY COMMENTS?

A. Yes. Mr. Knecht notes that under the traditional A&E method, the system average load factor is used as the weighting for the average day or commodity portion of mains. That is, for example, if an NGDG's system average load factor is 30 percent, 30 percent of mains costs would be allocated based on average day demands, and 70 percent would be allocated based on the excess of peak demands over average day demands. Arithmetically, the traditional A&E method produces results that are identical to an allocation of mains investment based 100 percent on peak demands. Mr. Knecht has used a 50/50 percent weighting of average daily and excess demands in this CCOSS. On page 4 of his rebuttal, Mr. Knecht notes that his A&E method produces results that are much closer to the use of a pure peak day allocation for mains than does the P&A method supported by the OCA and I&E.

Q. MR. KNECHT CLAIMS THAT IN FULLY LITIGATED PROCEEDINGS INVOLVING DISTRIBUTION MAINS ALLOCATIONS THE COMMISSION HAS NOT BEEN PRECISE IN SPECIFYING WHETHER THE A&E OR P&A METHOD SHOULD BE USED, INCLUDING IN DOCKET NO. R-00061931, PGW'S LAST LITIGATED RATE CASE. DO YOU HAVE ANY COMMENTS?

A. As noted by Mr. Knetch and identified in my direct testimony, this Commission has endorsed the use of the P&A method for the allocation of mains costs, stating that the P&A method "is a sound and reasonable method of cost allocation and should remain intact." *Pa. PUC vs. National Fuel Gas Distribution Co.*, 83 Pa PUC 262, 360 (1994). In that proceeding, mains were allocated 50 percent based on average day demands and 50 percent based on peak demands. My direct testimony also noted several other prior cases that the Commission approved the use of the P&A method.

In Docket No. R-00061931, the OCA supported a variant of the P&A method that allocated 80 percent of distribution mains investment based on average day demands and 20 percent based on peak demand. I&E presented a CCOSS utilizing the A&E method that allocated distribution mains investment 50 percent based on average day demands and 50 percent based on excess demands. In its final Order the Commission provided "Reviewing the record, we find that the allocation of distribution mains investment costs should be done using both annual and peak demands." In Docket No. R-00061931, the Commission approved I&E's 50/50 percent A&E allocation of distribution mains. In my opinion, since I&E's A&E CCOSS was the only study sponsored in Docket No. R-00061931 that reflected the Commission's previously endorsed 50/50 percent approach to mains cost allocation, it was approved.

Q. MR. KNECHT CONCLUDES THAT BECAUSE THE A&E METHOD IS MORE TILTED TOWARD A DESIGN DAY DEMAND ALLOCATION, THE A&E METHOD IS SOMEWHAT MORE CONSISTENT WITH COST ALLOCATION THAN THE P&A METHOD. WHAT IS YOUR RESPONSE?

A. I disagree. Mr. Knecht is correct that the A&E method is tilted toward an allocation based on peak demands, but he is incorrect that this is more consistent with cost causation. As I explained in my direct testimony and in my response to Mr. Hanser, the Company's decision to invest in mains extensions is almost entirely based on annual demands (average day) and annual revenues. While some of PGW's mains investment is associated with meeting peak demands, that amount is small. As detailed in my direct testimony, PGW's peak-related mains investment costs represent less than 20 percent of total mains investment. To be conservative and consistent with prior Commission precedent, I allocated 50 percent of distribution mains costs based on peak demands.

Q. ON PAGE 5 OF OSBA STATEMENT NUMBER 1-R, MR. KNECHT CONTENDS THAT FOR ALLOCATING THE COSTS OF A SMALL PIECE OF PIPE NEITHER AVERAGE DAY DEMANDS NOR THE NUMBER OF CUSTOMERS IS A USEFUL CONCEPT, CONTENDING THAT DESIGN DAY DEMANDS ARE THE MOST LOGICAL METHOD. DO YOU AGREE?

A. No. PGW's decision to install a piece of pipeline is guided by its mains extension policy, and PGW's decision to invest in a piece of pipeline is contingent upon whether that extension will generate annual revenues sufficient to recover the cost of that investment. Annual revenues are primarily derived from delivered volumes and, as such, annual daily demands are the most significant cost causation factor for PGW. While PGW's mains investment costs are partially dependent on peak demands, those costs are primarily dependent on average day demands. Therefore, the most logical approach to allocate the costs of a single piece of pipeline would be based on peak and average day demands.

Q. IN MR. KNECHT'S VIEW, MAINS COST ALLOCATION IS AN ENDLESS DEBATE AND THE ONLY SOLUTION IS TO CONDUCT DETAILED SYSTEM MODELING AND ASSIGN THE COSTS OF EACH MAIN TO THE CUSTOMER CLASS SERVED BY THAT MAIN IN PROPORTION TO DESIGN DAY DEMAND. WHAT IS YOUR RESPONSE?

A. It is not possible to comment upon the results of such a modeling effort until that analysis is complete. However, again, because PGW's investment decisions are based on annual revenues and annual volumes, mains assignments should include a significant allocation based on average day or an annual commodity component.

Q. MR. KNECHT NOTES THAT BECAUSE THE COMPANY WAS UNWILLING TO PROVIDE A WORKING VERSION OF ITS CCOSS IN THIS PROCEEDING, THE COMPANY HAS HAD TO RUN CCOSS SIMULATIONS ON INTERVENOR REQUEST. HE FURTHER NOTES THAT IN RUNNING THE OCA'S AND I&E's P&A STUDY, THE COMPANY MADE AN ERROR IN ITS SIMULATION. WHAT IS YOUR RESPONSE?

A. The OCA's and I&E's P&A CCOSS identified by Mr. Knecht was provided by the Company in the response to I&E-RS-21-D. As noted in my rebuttal testimony, while reviewing the direct testimony of the intervening parties, I discovered that the Company failed to include the average daily demands of IT customers in the CCOSS provided in response to I&E-RS-21-D. The OCA subsequently asked the Company to correct this error, and the corrected P&A CCOSS and results were included in my rebuttal testimony. As noted earlier in this testimony, the corrected P&A CCOSS was provided in a revised response to OCA-VII-7 rather than a revised response to I&E-RS-21-D.

Q. NEVERTHELESS, MR. KNECHT NOTES A FLAW IN REVISED OCA-VII-7. WHAT IS YOUR RESPONSE?

A. Mr. Knecht notes that in Revised OCA-VII-7, the Company incorrectly included the throughput of two large GTS customers that are served from directly assigned mains. In reviewing the rebuttal testimony of the parties in this proceeding, I also noted the same flaw and in data request OCA-XVII-2 asked PGW to correct this flaw. The Company has responded to OCA-XVII-2, and I have reflected the results of the CCOSS presented in this response in Table 3 Revised Surrebuttal below, and Schedule JDM-1 Revised Surrebuttal which is attached to my surrebuttal testimony. I would note that the response to OCA-XVII-2 has not affected my proposed distribution of the revenue increase authorized in this proceeding.

Table 3. Revised Surrebuttal Class Rates of Return PGW Peak & Average Cost-of-Service Study Results at Present Rates – 50/50 Demand/Annual Allocation		
Class	**Rate of Return**	**Index**
Residential	5.8%	1.24
Commercial	6.6	1.40
Industrial	5.2	1.11
PHA GS	5.1	1.08
Municipal/PHA	(0.6)	0.13
NGVS	(1.4)	(0.30)
Interruptible Sales	(13.9)	(2.95)
GTS/IT	(8.6)	(1.83)
System	**4.7%**	**1.00**

IV. PHILADELPHIA INDUSTRIAL AND COMMERCIAL GAS USERS GROUP

Witness: Richard A. Baudino

Q. IN RECOMMENDING THAT PGW'S PROPOSED THREE-YEAR TRANSITION TO NEGOTIATED IT RATES BE REDUCED TO ONE-YEAR, MR. BAUDINO CLAIMS THAT YOU FAILED TO ADDRESS WHETHER RATE IT CUSTOMERS WOULD BE ABLE TO FULLY CONVERT THEIR FACILITIES TO SUBSTITUTE ALTERNATE FUEL. WHAT IS YOUR RESPONSE?

A. In his rebuttal testimony, Mr. Baudino presents Rebuttal Table 1 which provides a comparison of the projected costs for natural gas and alternative fuels. He acknowledges that his Rebuttal Table 1 clearly shows that neither propane nor fuel oil are economically viable alternates to natural gas for the foreseeable future. Therefore, no rational economic Rate IT customer would convert their facilities to a substitute alternative fuel, and Mr. Baudino's concern is irrelevant.

In addition, I would note that under PGW's negotiated IT rate proposal, an IT customer has the option of converting to firm transportation service. Mr. Baudino claims in his direct testimony that if an IT customer sought to switch to firm transportation service, the customer's only option would be PGW's Rate GS delivery service that is priced at $4.5332 per Mcf. Even though the natural gas costs identified in Rebuttal Table 1 would include NGDC delivery charges, adding the full $4.5332 per Mcf to the price comparisons presented in Rebuttal Table 1 would continue to show natural gas as being less expensive than an IT customer's alternate fuel option.

Q. MR. BAUDINO CLAIMS THAT WITH ALTERNATE FUELS PRICED SO FAR ABOVE NATURAL GAS, THERE IS NO BASIS WHATSOEVER FOR PRICING RATE IT BASED ON THE COST OF ALTERNATE FUELS. WHAT IS YOUR RESPONSE?

A. Under PGW's negotiated IT rate proposal, Rate IT service would be capped at the Company's rates for firm transportation service, not the cost of alternate fuels.

Q. MR. BAUDINO CLAIMS THAT THE NUMBER OF CUSTOMERS CONNECTED TO AN NGDCs DISTRIBUTION MAINS SYSTEM WILL DRIVE A PORTION OF THE COMPANY'S INVESTMENT IN MAINS. WHAT IS YOUR RESPONSE?

A. PGW's distribution mains investments are guided by the Company's main extension policy. As indicated earlier in my surrebuttal testimony in responding to Messrs. Hanser and Knecht, annual delivery revenues which are derived from annual (average day) delivery volumes are the primary consideration in the Company's mains extension investment decisions and, therefore, the primary cost causation factor on the PGW system.

Q. MR. BAUDINO CLAIMS THAT CLASSIFYING AND ALLOCATING DISTRIBUTION MAINS BASED ON THE NUMBER OF CUSTOMERS DOES NOT ALLOCATE ANY PARTICULAR NUMBER OF FEET OF DISTRIBUTION MAINS TO EACH CUSTOMER REGARDLESS OF SIZE. DO YOU AGREE?

A. No. While Mr. Baudino claims that a portion of distribution mains should be allocated based on the number of customers, he claims that such an allocation does not allocate a particular number of feet of mains to each customer. As I subsequently explain, Mr. Baudino's claim is incorrect. PGW's system consists of 16 million linear feet of mains and PGW serves approximately 500,000 customers. That is an average of 32 feet of main per customer. In PGW's CCOSS, 50 percent of PGW's distribution mains investment has been allocated based on the number of customers. Therefore, mathematically it follows that each customer has been assigned the investment associated with 16 feet of distribution main, regardless of customer size.

Q. ON PAGES 7 THROUGH 9 OF HIS REBUTTAL TESTIMONY, MR. BAUDINO DISAGREES WITH YOUR CLAIMS THAT PGW COULD NOT MEET ITS CUSTOMERS' ANNUAL DEMANDS WITH A SYSTEM CAPABILITY ANY SMALLER THAN 204,878 MCF PER DAY. PLEASE ELABORATE UPON HIS CLAIM.

A. Mr. Baudino points out that average daily usage on the PGW system in June is only 101,803 Mcf, and this is less than the average daily annual use of 204,878 Mcf. He uses this information to support his opinion that I have:

> …made a series of unsupported and conclusory statements in support of using average demands to classify and allocate distribution mains costs.

And that I have:

> …presented no concrete analysis that shows PGW considers annual throughput or demands in the design and construction of its distribution mains system. (Rebuttal at 9).

Q. WHAT IS YOUR RESPONSE TO MR. BAUDINO'S CLAIM?

A. My response to Mr. Baudino is the same as my response to Messrs. Hanser and Knecht. PGW's mains investment decisions are guided by its mains extension policy. This policy is stated in the Company's tariff and requires that annual revenues from a mains extension recover the cost of that extension over a certain period of time (PGW Tariff Section 10.1). Therefore, I do not believe any further analysis is necessary to demonstrate that throughput or annual demands is the most critical factor in PGW's mains investment decisions.

Q. MR. BAUDINO CONCLUDES THAT THE OVERARCHING IMPORTANCE OF MEETING PEAK WINTER DEMANDS OF PGW'S CUSTOMERS AND CONNECTING THOSE CUSTOMERS TO THE DISTRIBUTION SYSTEM IS WHAT SHOULD BE REFLECTED IN THE COMPANY'S CCOSS, NOT AVERAGE DEMANDS AND/OR THROUGHPUT. WHAT IS YOUR RESPONSE?

A. Again, Mr. Baudino has failed to recognize that PGW extends and invests in distribution mains and connects customers to its system when the annual revenues from a customer are sufficient to recover the costs of that investment over a defined period of time, either five or three years, depending on customer class. Therefore, average demands are the most significant cost causation factor for PGW's distribution mains investment and costs.

Q. MR. BAUDINO CLAIMS THAT BECAUSE RATE IT CUSTOMERS HAVE HAD ONLY ONE INTERRUPTION IN THE LAST 20 YEARS, THIS FACT DOES NOT WARRANT TREATING THESE CUSTOMERS AS FIRM. WHAT IS YOUR RESPONSE?

A. Mr. Baudino is correct that IT customers have only been interrupted once in the last 20 years. I would note that as the design day demand of PGW's firm customers declines, the likelihood of an interruption of Rate IT customers, all else being equal, will also decline. Since the winter of 2004-2005 to the present day, the design day demand of PGW's firm customers has decreased from 729,903 Mcf to 652,781 Mcf, or by over 10 percent. When the demands of firm customers decline, the load carrying capability of the distribution mains installed by PGW does not change, and there is additional load carrying capability to serve interruptible customers.

Moreover, under PGW's negotiated IT rate proposal, if PGW and the IT customer are not able to arrive at a mutually acceptable agreement, the rate for IT service would be set at the midpoint between the cost of service-based IT rate and the firm transportation rate. Under these conditions, the midpoint default rate will serve as a cap on the negotiated IT rate. No rational economic IT customer would agree to a rate higher than the midpoint. Since this midpoint rate, by definition, would be less than the maximum firm transportation rate, IT customers would not be required to pay firm rates and would not be treated as a firm customer.

V. TEMPLE UNIVERSITY

Witness: Kurt Bresser

Q. MR. BRESSER CLAIMS THAT RATE IT CUSTOMERS HAVE INVESTED IN ADDITIONAL INFRASTRUCTURE TO ALLOW PGW TO INTERRUPT SERVICE WHEN NECESSARY, AND THAT RATE IT CUSTOMER MADE THESE INVESTMENTS TO MAKE AVAILABLE THE LOWER-PRICED NATURAL GAS DELIVERY SERVICE AVAILABLE UNDER THE IT RATE. MR. BRESSER CLAIMS THAT THIS DISTINGUISHES RATE IT FROM FIRM TRANSPORTATION CUSTOMERS. WHAT IS YOUR RESPONSE?

A. As explained in my response to Mr. Baudino, because PGW's negotiated IT rate proposal includes a midpoint default price cap, IT customers would not be required to pay firm transportation rates. In addition, PGW has indicated that it would be pleased to consider an IT customer's alternative fuel system costs in its determination of a reasonable, negotiated rate for IT service. (Moser Rebuttal, p. 8, lines 12-14).

Q. ON PAGE 6 OF HIS REBUTTAL TESTIMONY, MR. BRESSER CLAIMS THAT UNDER PGW'S NEGOTIATED RATE PROPOSAL, TEMPLE COULD EXPERIENCE A RATE INCREASE OF OVER 500 PERCENT. WHAT IS YOUR RESPONSE?

A. Mr. Bresser's claim does not consider the proposed midpoint price cap or PGW's consideration of an IT customer's alternative fuel system costs. To address the potential for what Mr. Bresser considers to be an "untenable" increase, I would not oppose limiting annual rate increases to IT customers of 10 percent upon implementation of the negotiated Rate IT program.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

OCA Statement No. 3-S

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

SCHEDULE ACCOMPANYING THE

SURREBUTTAL TESTIMONY OF

JEROME D. MIERZWA

ON BEHALF OF THE
PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 22, 2017

EXETER
ASSOCIATES, INC.
10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

PHILADELPHIA GAS WORKS
Allocated Class COS-Study - Full Projected Future Test Year Ended Agusut 31, 2018 - OCA Peak & Average Class Cost of Service Study
Schedule JDM-1: *Summary of Allocation Results*

		Total	Residential	Commercial	Industrial	PHA GS	Municipal/PHA	NGVS	Interruptible Sales	GTS/IT
AT CURRENT RATES										
Total Revenue	[1]	491,318	385,283	77,377	5,904	1,499	8,861	20	18	12,356
Share of Revenue, by Class	[2]	100.0%	78.4%	15.7%	1.2%	0.3%	1.8%	0.0%	0.0%	2.5%
Total Operating Expenses	[3]	435,418	333,351	66,363	5,261	1,305	9,007	21	35	20,075
Share of Operating Expenses, by Class	[4]	100.0%	76.6%	15.2%	1.2%	0.3%	2.1%	0.0%	0.0%	4.6%
Income Before Interest & Surplus	[5] [1]-[3]	55,900	51,932	11,014	643	194	(146)	(1)	(18)	(7,719)
Interest & Surplus	[6]	125,013	93,631	17,628	1,290	401	2,609	5	13	9,436
Current Revenue Over(Under) Requirements	[7] (5)-[6]	(69,113)	(41,699)	(6,614)	(647)	(207)	(2,755)	(6)	(31)	(17,155)
Total Revenue Requirement*	[8] [11]- [7]	560,431	426,982	83,991	6,551	1,706	11,616	26	48	29,511
Revenue Increase for Full Cost of Service	[9]	14.1%	10.8%	8.5%	11.0%	13.8%	31.1%	28.1%	174.3%	138.8%
Rate Base	[10]	1,198,370	990,055	167,567	12,264	3,809	24,800	50	126	89,699
Return on Rate Base Before Inerest & Surplus	[11] [5] / [10]	4.7%	5.8%	6.6%	5.2%	5.1%	(0.6%)	(1.4%)	(13.9%)	(8.6%)
Relative Return	[12]	1.00	1.24	1.40	1.11	1.08	(0.13)	(0.30)	(2.95)	(1.83)
Revenues Relative to COS	[13] [1] / [8]	0.88	0.90	0.92	0.90	0.88	0.76	0.78	0.36	0.42
Relative to Total for all Classes	[14]	1.00	1.03	1.05	1.03	1.00	0.87	0.89	0.42	0.48
AFTER PROPOSED INCREASE										
Proposed Increase (decrease)	[15]	70,000	53,175	10,000	910	265	2,200	0	0	3,450
Share of Proposed Increase, by Class	[16]	100.0%	76.0%	14.3%	1.3%	0.4%	3.1%	0.0%	0.0%	4.9%
Total Distribution Revenue with Increase	[17] [1] + [16]	561,317.8	438,458.0	87,377.0	6,814.0	1,764.0	11,061.0	20.3	17.5	15,806.0
Increase(Decrease)%	[18] [15] / [1]	14.2%	13.8%	12.9%	15.4%	17.7%	24.8%	0.0%	0.0%	27.9%
Income Before Interest & Surplus	[19] [5] + [15]	125,900	105,107	21,014	1,553	459	2,054	(1)	(18)	(4,269)
Return on Rate Base Before Interest & Surplus	[20] [19]/ [10]	10.6%	11.8%	12.5%	12.7%	12.1%	8.3%	(1.4%)	(13.9%)	(4.8%)
Relative Return	[21]	1.00	1.11	1.18	1.20	1.14	0.78	(0.13)	(1.31)	(0.45)
Revenues Relative to COS	[22] [17] /[8]	1.00	1.03	1.04	1.04	1.03	0.95	0.78	0.36	0.54
Percent of System Average Increase	[23]	100%	97%	91%	108%	124%	174%	0%	0%	196%

* The Total Revenue Requirement is equal to the Tariff Requirement plus the revenues that PGW collects from customer installations, interest income, and certain LNG sales.

Schedule JDM-1
Revised Surrebuttal
Page 1 of 1

PENGAD 800-631-6989
EXHIBIT
R-2017-2586783
OCA-Schedule JDM-1 Revised
6-28-17 EP PML

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Jerome D. Mierzwa, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement No. 3-S, are true and correct and that I expect 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).

Signature: ______________________
Jerome D. Mierzwa

Consultant Address: Exeter Associates, Inc.
Suite 300
10480 Little Patuxent Parkway
Columbia, MD 21044

DATED: June 22, 2017
235890.doc

OCA STATEMENT NO. 4 (Revised)

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

DIRECT TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF
THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 2, 2017

EXHIBIT
PENGAD 800-631-6989
R-2017-2586783
OCA Statement No. 4-Revised
6-28-17 EP PHL

Table of Contents

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Roger Colton. My business address is 34 Warwick Road, Belmont, MA 02478.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am a principal in the firm of Fisher Sheehan & Colton, Public Finance and General Economics of Belmont, Massachusetts. In that capacity, I provide technical assistance to a variety of federal and state agencies, consumer organizations and public utilities on rate and customer service issues involving telephone, water/sewer, natural gas and electric utilities.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the Office of Consumer Advocate.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.

A. I work primarily on low-income utility issues. This involves regulatory work on rate and customer service issues, as well as research into low-income usage, payment patterns, and affordability programs. At present, I am working on various projects in the states of Connecticut, Maryland, Pennsylvania, Michigan, Wisconsin, Illinois and Iowa, as well as in the provinces of Ontario, Manitoba and British Columbia. My clients include state agencies (e.g., Pennsylvania Office of Consumer Advocate, Maryland Office of People's Counsel, Iowa Department of Human Rights), federal agencies (e.g., the U.S. Department of Health and Human Services), community-based organizations (e.g., Energy Outreach

Colorado, Natural Resources Defense Council, Action Centre Tenants Ontario), and private utilities (e.g., Unitil Corporation d/b/a Fitchburg Gas and Electric Company, Entergy Services, Xcel Energy d/b/a Public Service of Colorado). In addition to state- and utility-specific work, I engage in national work throughout the United States. For example, in 2011, I worked with the U.S. Department of Health and Human Services (the federal LIHEAP office) to advance the review and utilization of the Home Energy Insecurity Scale as an outcomes measurement tool for LIHEAP. In 2007, I was part of a team that performed a multi-sponsor public/private national study of low-income energy assistance programs. In 2016, I was part of a team that engaged in a study for the Water Research Foundation on how to reach "hard to reach" customers. At present, I have been retained by the National Coalition on Legislation for Affordable Water (NCLAWater) to write a comprehensive "water bill of rights" to be introduced in Congress. A brief description of my professional background is provided in Appendix A.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. After receiving my undergraduate degree in 1975 (Iowa State University), I obtained further training in both law and economics. I received my law degree in 1981 (University of Florida). I received my Master's Degree (regulatory economics) from the MacGregor School in 1993.

Q. HAVE YOU EVER PUBLISHED ON PUBLIC UTILITY REGULATORY ISSUES?

A. Yes. I have published three books and more than 80 articles in scholarly and trade journals, primarily on low-income utility and housing issues. I have published an equal number of technical reports for various clients on energy, water, telecommunications and other associated low-income utility issues. A list of my publications is included in Appendix A.

Q. HAVE YOU EVER TESTIFIED BEFORE THIS OR OTHER UTILITY COMMISSIONS?

A. Yes. I have testified before the Pennsylvania Public Utility Commission ("PUC" or "Commission") on numerous occasions regarding utility issues affecting low-income customers and customer service. I have also testified in regulatory proceedings in more than 30 states and various Canadian provinces on a wide range of utility issues. A list of the proceedings in which I have testified is listed in Appendix A.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR DIRECT TESTIMONY.

A. The purpose of my Direct Testimony is as follows.

- First, I examine the impact of PGW's (sometimes hereafter referred to as "Company") proposed increase in its fixed monthly residential customer charge;
- Second, I examine the reasonableness of PGW's structure of cost recovery for its Customer Responsibility Program ("CRP");
- Third, I examine the reasonableness of PGW's payment posting sequencing for late payments;

- Fourth, I examine the reasonableness of a residential program under which PGW will repair or replace heating systems where the system is inoperable and low-income customers cannot afford to repair or replace them;
- Fifth, I examine Budget Billing;
- Sixth, I examine the reasonableness of PGW actions regarding the credit and collection for residential accounts owing $10,000 or more in arrears; and
- Finally, I examine whether LIURP funding should be expanded.

Q. PLEASE BRIEFLY SUMMARIZE THE RECOMMENDATIONS PRESENTED IN YOUR DIRECT TESTIMONY.

A. The data and discussion throughout my Direct Testimony below supports the following recommendations:

- I recommend that the residential customer charge as proposed by OCA Witness Jerome Mierzwa be adopted.

- I recommend a base participation rate of 51,500 CRP participants for purposes of setting both the bad debt and carrying cost offset for CRP participants.

- I recommend that the PGW Universal Service Surcharge incorporate a bad debt offset for CRP Credits of 15.7%; incorporate a carrying cost offset for CRP Credits of 21%; incorporate a bad debt offset for Arrearage Forgiveness Credits of 15.7%; and incorporate a carrying cost offset for Arrearage Forgiveness Credits of 21%.

- I recommend that PGW be directed to modify its tariff and practices to comply with the PUC mandate that late fees represent annual simple interest rather than posting payments to generate the same effect as compounded interest. I recommend that the PUC bar PGW's unreasonable out-of-sequence payment posting to maximize late payment charges and to require PGW to apply payments against bills in the order and timing in which they were incurred.

- I recommend that PGW adopt a program to repair or replace broken gas systems that represent the main heating system in a low-income home where the customer has used, or is likely to use, electric space heaters (or other unsafe heating sources) as a replacement source of heat. The program should be administered by PGW's LIURP service providers.

- I recommend that PGW fund this program at the rate of $500,000 per year, through the Company's universal service rider, subject to revision at the time PGW submits its next triennial USECP; and that the program be adopted as a "pilot" program and be treated as such for purposes of cost recovery and evaluation.

- I recommend that PGW be directed to comply with PUC regulation 52 Pa. Code § 56.12(7) which requires that Budget Billing amounts reflect "average estimated public utility service costs" over a 10-, 11- or 12-month period. Imposing a default Budget Billing amount that is two-times or more higher than the average annual residential bill does not comport with that PUC directive.

- PGW should ensure that customers entering into new Payment Arrangements (PARs) enter also into Budget Billing at the time they enter the PAR. Moreover, PGW should ensure that customers are not removed from Budget Billing upon completion of their PAR without an explicit request to be removed from Budget Billing.

- PGW should modify its year-end Budget Billing processes. First, if year-end balances are greater than $100 but less than $300, PGW should spread that balance over the next six months.[1] Underpayments of $300 or more should be spread out over a future period governed by the PUC's ability to pay guidelines.[2]

- From a credit and collection perspective, based on the reports the Company has filed for its first two years, PGW would be better served to devote efforts and resources to bill management than to service terminations for nonpayment. I recommend that PGW engage in a twelve month collaborative process with OCA, CAUSE-PA, TURN and other interested stakeholders to determine methods and

[1] This time period is dictated by PUC regulation. 52 Pa. Code § 56.12(7).

[2] PGW has misconstrued and misapplied the PUC's regulation regarding underpayments of more than $300. The PUC regulation provides that "Reconciliation amounts exceeding $300 shall be amortized over ***at least*** a 12-month period at the request of the customer." (emphasis added). PUC has converted the "at least" language into a repayment period of always "equal to" twelve months. The PUC's regulation providing for "at least a 12-month period" clearly indicates that the repayment period should be twelve months ***or more***.

mechanisms by which it: (1) will offer energy education specifically targeted to accounts with arrears exceeding $10,000; (2) engage in EE&C outreach and programming specifically targeted to accounts with arrears exceeding $10,000; and (3) engage in LIURP eligibility determinations, outreach, and programming specifically targeted to accounts with arrears exceeding $10,000.

- I recommend that as part of any future claim for credit and collection expenses and/or uncollectible expenses, PGW be required to include a demonstration of how it has applied its own customer segmentation study to reduce or minimize the need for these expenditures and what the results of that application have been found to be.

- I recommend that PGW expand its LIURP budget by an amount equal to the same percentage bill increase to the residential class at median usage resulting from a final order in this proceeding.

Part 1. The Residential Customer Charge.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I assess the impact that the Company's proposed increase to the residential fixed monthly customer will have on low-income customers. I demonstrate that a substantial portion of the rate increase is driven by the Company's proposed fixed monthly customer charge. I then discuss how the Company's proposed overall rate increase will have an adverse impact on low-income customers.

Q. ARE LOW-INCOME CUSTOMERS PROTECTED BY CRP FROM THE RATE INCREASES SOUGHT BY PGW IN THIS PROCEEDING?

A. No. Most PGW low-income customers are not protected against the proposed rate increase by virtue of their participation in the Company's Customer Responsibility

Program ("CRP"). PGW's CRP fails to enroll more than half of all estimated low-income customers.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR CONCLUSION THAT A SUBSTANTIAL PORTION OF THE PROPOSED RATE INCREASE OCCURS FROM THE COMPANY'S PROPOSED CUSTOMER CHARGE INCREASE.

A. PGW does not track the consumption of low-income customers and, therefore, cannot provide average low-income usage. (OCA-III-8). However, for the average residential customer, the Company's data shows that 83% of the annual rate increase for non-heating customers flows from the increase in the customer charge, while nearly 60% of the annual rate increase for heating customers flows from the increase in the customer charge.

Q. DOES THE COMPANY'S PROPOSAL TO SUBSTANTIALLY INCREASE THE RESIDENTIAL CUSTOMER CHARGE DISPROPORTIONATELY ADVERSELY AFFECT LOW-INCOME CUSTOMERS?

A. Yes. According to PGW's data, Confirmed Low-Income customers have significantly lower usage than do residential customers generally. According to PGW, the Company generates $486,111,491 in billings through 470,788 residential customer bill, with an average bill of $1,033 a year or $86.05 per month. In contrast, the Company generates $134,713,519 in billings to Confirmed Low-Income customers through 161,961 Confirmed Low-Income customer bills, with an average annual bill of only $832 (or $69.31 per month). Because of this lower consumption (and the lower Confirmed Low-

Income bills), the rates proposed by PGW in this proceeding represent a much greater percentage bill increase for Confirmed Low-Income customers than the 11.3% increase to an average residential heating customer using 76 Mcf per year. (OCA-III-9).

Q. CAN YOU PLACE THIS RATE INCREASE INTO SOME TYPE OF CONTEXT FOR LOW-INCOME CUSTOMERS?

A. The Company presents a comparison of its revenue at current rates to its revenue at proposed rates for residential customers (Schedule III.E.11). The Company provided a corresponding comparison for residential customers excepting CRP participants. (OCA-III-21).

It is possible to determine the revenue that PGW will pull out of its low-income population from the Company's proposed rate increase. Using average residential usage data the Company provided in support of its refunding bonds, and applying that to the Company's *Confirmed* Low-Income customers, the proposed PGW rate increase will pull $20.3 million of revenue out of the Confirmed Low-Income population. Applying the proposed rate increase to the *estimated* low-income population, assuming low-income consumption is equal to the residential average, will impose an additional $22.5 million in costs to the Company's Confirmed Low-Income customers. The proposed rate increase to low-income customers, alone, sought in this proceeding, in other words, represents more than 100% of population of the _total_ amount of LIHEAP PGW customers received in combined basic Cash grants (59,810 recipients of $15,180,779 in

LIHEAP Cash grants) and Crisis grants (13,976 recipients of $4,153,196 in LIHEAP Crisis grants) in 2015 ($15,180,779 + $4,153,196 = $19,333,875).[3]

This is not to say that all of PGW's low-income customers receive LIHEAP. Indeed, very few do. In 2015, while PGW had nearly 180,000 estimated low-income customers, and nearly 162,000 Confirmed Low-Income customers, only 59,810 of those customers (37%) received LIHEAP.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR CONCLUSION THAT LOW-INCOME CUSTOMERS ARE NOT A PRIORI PROTECTED BY CRP FROM THE RATE INCREASES PROPOSED IN THIS PROCEEDING.

A. According to the most recent annual report on Universal Service Programs and Collections Performance, published by the Pennsylvania PUC's Bureau of Consumer Services ("BCS"), in 2015, PGW had 178,899 estimated low-income customers. Of that population, PGW reported a "confirmed" low-income population of 161,961 customers. With a 2015 CAP participation of only 58,282, less than one-third of all Confirmed Low-Income customers have enrolled in PGW's CRP. A relatively small proportion of the Confirmed Low-Income population base, in other words, receives the affordability protections of CRP and that percentage is declining. Since 2010, the number of PGW CAP participants has declined by nearly 30%, despite the fact that the number of estimated low-income customers continues to see a steadily increasing trend.

[3] It is not possible to determine whether the Cash recipient and Crisis recipient numbers are unduplicated. The same customer may have received both a Cash and a Crisis grant. The dollar figures, however, are unduplicated.

Q. WHAT DO YOU CONCLUDE?

A. The proposed PGW rate increase, particularly given the way in which PGW proposes to impose the bulk of that increase (i.e., through substantially increased fixed monthly customer charges) will have a significant adverse impact on PGW's low-income customers.

Q. ARE ALL LOW-INCOME CUSTOMERS ELIGIBLE TO PARTICIPATE IN CRP?

A. No. CRP eligibility extends to customers who have income at or below 150% of the Federal Poverty Level. A significant number of households in Philadelphia, however, live with income that just exceeds the CRP eligibility limit. Of the total number of persons living with income at or below 200% of Poverty (702,341), 78% (551,381) live with income below 150% of Poverty Level. More than one-in-five of all households with income at or below 200% of Poverty Level, in other words, live with income between 150% and 200% of Poverty. This higher income level provides inadequate income to meet basic needs, but households with these incomes do not qualify for PGW's CRP program.

Q. DOES THE EXPOSURE TO INCREASED BILL UNAFFORDABILITY FOR LOW-INCOME CUSTOMERS HAVE A FINANCIAL IMPACT ON NON-LOW-INCOME CUSTOMERS?

A. Yes. The proposed increase in the overall rates, including the proposed increase in the Company's fixed monthly customer charge, imposes disproportionately high rate increases on low-use customers, whether low-income or non-low-income. Low-use customers in the PGW service territory, however, tend also to be low-income customers. As a result, through its increased customer charge, the Company proposes to increase rates the most for those who can least afford to pay those rate increases. Not only are proportionately more Confirmed Low-Income customers in arrears, but those who are in arrears, are *deeper* in arrears. PGW's proposal will *raise* rates the most to these customers. The resulting increase in bad debt, carrying costs, and credit and collection costs will be borne by all ratepayers.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR CONCLUSION THAT LOW-INCOME CUSTOMERS HAVE A DISPROPORTIONATE PAYMENT-TROUBLED STATUS.

A. The BCS annual report on Universal Service Programs and Collections Performance differentiates collections performance based on Confirmed Low-Income customers and on all residential customers.[4] According to the most recent BCS report, PGW's Confirmed Low-Income customers exhibit greater payment difficulties than residential customers do generally. Confirmed Low-Income customers, among other things: (1) have a proportionately greater number of dollars in arrears; (2) have a proportionately higher percentage of accounts terminated for nonpayment; (3) have a higher dollar level of arrears for accounts having arrears; and (4) have a proportionately higher rate of uncollectibles. The data is set forth below.

[4] The BCS comparison is *not* between Confirmed Low-Income customers and *non*-low-income customers. It is between Confirmed Low-Income customers and *all* residential customers (a population that includes the Confirmed Low-Income group as one of its component parts).

Confirmed Low-Income vs. All Residential (PGW) (2015)		
	All Residential	Confirmed Low-Income
Percentage dollars in debt	9.9%	11.1%
Termination rate	6.3%	12.8%
Average arrears	$602	$704
Uncollectible rates	10.0%	25.6%

Confirmed Low-Income customers have a somewhat higher proportion of billed revenues that are in arrears (11.1% vs. 9.9%). Despite the relative closeness in the proportion of dollars in arrears, Confirmed Low-Income PGW customers are disconnected more than two times more frequently (12.8% vs. 6.3%). They have an arrearage balance that, on average, is more than $100 higher than the residential class as a whole ($602 vs. $704). Their uncollectible rate is more than twice as high as the residential customer population as a whole. There can be no question that PGW's Confirmed Low-Income customers face disproportionate payment difficulties. These disproportionately payment-troubled customers, who are also lower usage customers, will see their bills increase the most on a monthly basis.

Q. ARE THERE ADDITIONAL CUSTOMERS WHO ARE LIKELY TO BE LOW-USE CUSTOMERS WHETHER OR NOT THEY ARE LOW-INCOME?

A. The elderly and disabled, in particular, will more likely be low use customers who will be harmed by PGW's proposed increase in the customer charge. The elderly and disabled disproportionately tend to live in small households. According to the U.S. Department of Energy's Residential Energy Consumption Survey ("RECS"), lower natural gas consumption is associated with smaller household sizes. RECS reports that as a household adds each new member, natural gas consumption increases.

Number of Household Members	Mcf Gas Usage (Northeast)
1 Person	56
2 Persons	76
3 Persons	80
4 Persons	92
5 Persons	102
6 or More Persons	110

Imposing a disproportionate rate increase on these aging and disabled customers has a particular adverse impact on these customers. The aging and disabled are customers who are most likely to have fixed incomes. Their incomes do not noticeably increase from year-to-year. As a result, the aging and disabled are customers that are least likely to be able to absorb rate increases in their annual household budgets.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the residential customer charge as proposed by OCA Witness Jerome Mierzwa be adopted.

Part 2. CRP Cost Recovery.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I examine one aspect of PGW's cost recovery for its low-income CRP. The Company recovers CRP costs through a "Universal Service Surcharge." Through the Rider, the Company files data with the Commission showing the reconciliation of actual revenues received under this Rider with actual recoverable costs incurred for the preceding twelve months as part of its annual 1307(f)—GCR filing. (PGW Tariff, 65th Revised Page 81).

In this section of my testimony, I explain why certain cost offsets should be applied to the cost-recovery of PGW's CRP, both in order to prevent the double-recovery of costs and to comply with PUC directives regarding the recovery of universal service costs. I undertake three specific tasks below: (1) to establish the base CRP participation number for setting the CRP cost offsets; (2) to document the appropriate bad debt offset; and (3) to document the appropriate carrying cost offset. Before turning to these three specific tasks, however, I explain the basis for applying these cost offsets.

A. The Basis for Applying a Bad Debt and Carrying Cost Offset.

i. An Overview of CRP Cost Recovery.

Q. PLEASE EXPLAIN THE ADJUSTMENT YOU RECOMMEND IN THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I explain why the Company must make an adjustment to reflect the over-collection of bad debt and carrying cost expenses if it is otherwise allowed to pass 100% of the incremental CAP Credits and arrearage forgiveness credits through the Company's Universal Service Surcharge.[5] The Company should offset its CAP Credits and arrearage forgiveness credits by an amount equal to a percentage of the incremental credits. The "incremental" credits are those credits associated with the

[5] I use the term "CAP Credit" rather than "CRP credit" because "CAP Credit" is a term-of-art in Pennsylvania. Likewise, I use the term "CAP Bill" rather than "CRP Bill" because "CAP Bill" is a term-of-art.

number of CRP participants above the "base" number used to establish rates in a base rate case such as that which we are currently reviewing.

Q. PLEASE DESCRIBE THE ELEMENTS OF EACH BILL RENDERED TO LOW-INCOME CUSTOMERS WHO PARTICIPATE IN CRP.

A. The bill for a participant in PGW's CAP[6] can be divided into three parts:

1. The CAP Bill: The CAP Bill is the asked-to-pay amount for which the CAP participant bears payment responsibility.
2. The CAP Credit: The CAP Credit is the difference between the CAP participant's bill at standard residential rates and the CAP Bill (with some exceptions not relevant here).
3. The preprogram arrearages: The preprogram arrearages are the arrearages that exist on the CRP participant's bill at the time the customer enrolls in CRP. These arrearages are "forgiven" as CRP participants make payments toward their CRP bill. The amount of forgiven arrears is referred to as the "arrearage forgiveness credits."

Q. PLEASE EXPLAIN HOW PGW RECOVERS ITS CRP COSTS.

A. The CRP costs that I will be addressing in this section are the costs associated with the two program components I have identified immediately above: (1) the CAP Credits;[7] and (2) the arrearage forgiveness credits.[8]

[6] For the reasons I explain immediately above, I use the generic term "CAP" to refer to PGW's CRP. CRP is PGW's CAP.

[7] CAP credits are also sometimes referred to as the "CAP shortfall," the shortfall between bills at standard residential rates and the bills rendered under the CAP.

PGW collects its universal service costs through a reconcilable surcharge. The Company projects its universal service costs based on historic participation rates in the various programs. On a periodic basis, however, the Company reconciles its actual CRP costs to the past CRP cost recovery and the surcharge is adjusted up or down for under- or over-collections respectively at that time. PGW does not currently incorporate an offset for either bad debt or carrying costs in its CRP cost recovery.

Q. PLEASE IDENTIFY THE PART OF THE CRP COST RECOVERY TO WHICH YOUR FIRST RECOMMENDED ADJUSTMENT APPLIES.

A. As I described above, a bill for ***current*** service rendered to a CRP participant is comprised of two parts:

- that portion of the bill that is at or below an affordable percentage of income ("CAP Bill"), which is charged to the CRP participant; and
- that portion of the bill that is above an affordable percentage of income ("CAP Credit"), which is collected through the Universal Service Surcharge from CRP non-participants.

The issue that I first discuss involves how the second part of the bill ("CAP Credit") is treated.

[8] To further explain the definition of the program costs I am going to discuss in my testimony, let me reference the PUC's Bureau of Consumer Services ("BCS") annual "Report on Universal Service Programs and Collections Performance." The 2013 BCS universal service report (released in November 2014) addressed CAP *bills* at page 38; addressed CAP *credits* at page 39; addressed arrearage forgiveness credits at pages 39 - 40; and addressed CAP administrative costs at page 62.

Q. PLEASE DISTINGUISH CRP PARTICIPANTS AND CRP NON-PARTICIPANTS FOR YOUR PURPOSES HERE.

A. To understand the need for the offsets that I describe below, it is important to understand the difference between CRP participants and CRP non-participants. CRP participants are entirely Confirmed Low-Income customers.[9] CRP non-participants include everyone else, primarily non-low-income customers. The offsets I identify are based on the differences in payment patterns between Confirmed Low-Income customers and residential customers generally as I discussed above.

Q. PLEASE EXPLAIN HOW A LOW-INCOME CUSTOMER'S BILL IS TREATED *BEFORE* A CUSTOMER BECOMES A CRP PARTICIPANT.

A. Before a low-income customer becomes a CRP participant, the two parts of the bill are not separately recognized. The low-income customer who is not in CRP receives a single bill. When that customer cannot afford to pay his or her total bill, the amount of the bill that remains unpaid eventually becomes uncollectible. For those low-income customers that are not CRP participants, those uncollectible dollars are included in base rates.

The fact that bills to low-income customers who are not in CRP are not fully affordable is reflected in the fact that the uncollectible rate for Confirmed Low-Income customers is much higher than the uncollectible rate for residential customers as a whole. I will

[9] The term "confirmed low-income customer" is a term-of-art in Pennsylvania utility regulation. See, 52 Pa. Code § 54.72 (2014). ("*Confirmed low-income residential account*—Accounts where the EDC has obtained information that would reasonably place the customer in a low-income designation.") See also, 52 Pa. Code, § 62.2 ("*Confirmed low-income residential account*—Accounts where the NGDC has obtained information that would reasonably place the customer in a low-income designation. This information may include receipt of LIHEAP funds (Low-Income Home Energy Assistance Program), self-certification by the customer, income source or information obtained in § 56.97(b) (relating to procedures upon rate-payer or occupant contact prior to termination).")

document this difference between Confirmed Low-Income customers and residential customers as a whole below.

Q. HOW DOES THE TREATMENT OF THE BILL CHANGE WHEN THE CUSTOMER ENROLLS IN CRP?

A. When a customer enrolls in CRP, the two parts of the bill ***are*** separately recognized. In contrast to the unified bill that I describe above, the CRP participant is provided an affordable bill ("CAP Bill"), which the participant is expected to pay. The remainder of the bill ("CAP Credit") is charged to CRP ***non***-participants through the Universal Service Surcharge. Accordingly, when a low-income customer enrolls in CRP, the portion of the bill that the customer previously could not pay, and that was included as an uncollectible expense in base rates, now becomes the CAP Credit and is recovered on a dollar-for-dollar basis through the reconcilable Universal Service Surcharge.

Q. IN SETTING BASE RATES, DOES PGW PRESENT A TEST YEAR BASED ON A CERTAIN LEVEL OF CRP PARTICIPATION?

A. Yes.

Q. WHAT HAPPENS IF ACTUAL CRP PARTICIPATION EXCEEDS THE BASE NUMBER OF CRP PARTICIPANTS?

A. As CRP participation increases above the CRP base participation, a higher and higher dollar amount is categorized as a CAP credit. As the dollar amount of the CAP Credit increases, the Company is allowed to collect that increased amount of CAP Credits through its Universal Service Surcharge. When the Universal Service Surcharge is reconciled to reflect actual CRP costs, the CAP Credits passed through the Universal Service Surcharge will increase as CRP participation increases if CRP participation increases above the base number.

Q. IF THE RECOVERY OF CRP COSTS INCREASES THROUGH THE UNIVERSAL SERVICE SURCHARGE AS CRP PARTICIPATION INCREASES, WHAT HAPPENS TO BASE RATES?

A. Base rates remain the same. It is important to remember that PGW has already set its base rates as though the unpaid bills from those customers above the CRP base number will be a part of uncollectibles. Through its base rates, the Company continues to collect that uncollectible expense as though no net addition of CRP participants has occurred.

Q. WHY IS THAT SIGNIFICANT?

A. Revenues must be one place or another. Customers (and their associated revenue) ***must*** be in ***either*** the group of CRP non-participants ***or*** in the group of CRP participants. They cannot be in both. A customer is either a CRP participant or is ***not*** a CRP participant; the customer cannot be both places at once. There is no dispute, in other words, that in any given month, the group of residential customers who receive a CAP Bill and the group of customers who do not receive a CAP Bill are mutually exclusive groups. No group of customers receives both a CAP Bill and a non-CAP Bill in the same month.

ii. Why these Cost Recovery Principles Require a Bad Debt Offset.

Q. GIVEN THIS INTERACTION BETWEEN BASE RATES AND THE RECOVERY OF CAP CREDITS THROUGH THE UNIVERSAL SERVICE SURCHARGE, WHY WILL PGW OVER-RECOVER ITS BAD DEBT EXPENSES?

A. Since the Universal Service Surcharge is reconcilable, as CRP participation increases, PGW collects the entire amount of increased CAP Credits associated with any increased participation as though that additional shortfall is a "new" expense. Even though the Company makes an ***upward*** adjustment in the costs it collects through the Universal Service Surcharge, it is not required to make a corresponding ***downward*** adjustment to base rates to remove those dollars that were already included in base rates, but are now instead being collected through the Universal Service Surcharge as part of the CAP Credits.

In fact, however, the participation by low-income customers in CRP does not create "new" costs. Instead, participation in CRP simply ***moves*** the unpaid bills out of the group of customers known as "residential" customers and into the group of customers known as "CRP participants." To allow the dollars of CAP Credits to be added to the Universal Service Surcharge without correspondingly adjusting for those dollars that already have been included in base rates allows the Company to collect those dollars in ***both*** places, thus creating the over-collection to which I refer.

Q. CAN YOU ILLUSTRATE HOW THIS OVER-COLLECTION OCCURS?

A. Yes. Let me assume a hypothetical utility system with 100 customers. In our hypothetical, 60 customers are non-low-income and 40 are Confirmed Low-Income. In our hypothetical, none of these customers are members of CAP (i.e., the base CAP participation is 0). All customers have an average annual bill of $800. The non-low-income customers have a bad debt rate of 20%. The Confirmed Low-Income customers have a bad debt rate of 50%. Given this hypothetical, the utility in this hypothetical experiences $9,600 in bad debt from the non-low-income customers (60 non-low-income customers x $800/customer bill x 20% bad debt rate = $48,000 x 0.20 = $9,600) and $16,000 in bad debt from its Confirmed Low-Income customers (40 Confirmed Low-Income customers x $800/customer bill x 50% bad debt rate = $32,000 x 0.50 = $16,000). The utility includes a total of $25,600 in bad debt in base rates ($9,600 non-low-income + $16,000 Confirmed Low-Income = $25,600).

My discussion above talks about how the bad debt already embedded in rates for the low-income customers will be over-recovered if there is an incremental increase in the CRP participation. Let me change my hypothetical, therefore, to move the 40 Confirmed Low-Income customers into CRP. The CRP participants in this hypothetical make a $500 customer payment (called the "CAP Bill" as explained above), with the remaining $300 (the "CAP Credit" as explained above) passed through to non-participating customers through the Universal Service Surcharge. The CAP Credit collected from program non-participants through the Universal Service Surcharge is thus $12,000 (40 CRP participants x $300 CAP Credit = $12,000), which is $200 per non-participant ($12,000 CAP Credit / 60 non-participants = $200/non-participant). As a result, the utility in this hypothetical will now experience the following bad debt:

- It will experience the same $9,600 in bad debt on the basic non-low-income bills (60 customers x $800 bill x 20% bad debt rate = $48,000 x 20% = $9,600).
- It will experience a bad debt of $2,400 on the CAP Credits charged to non-participants through the Universal Service Surcharge ($200 per non-participant x 60 non-participants x 20% bad debt rate = $12,000 x 20% = $2,400).
- It will experience a bad debt of $10,000 on the CRP participant CAP Bills (40 CAP participants x $500/participant CAP Bill x 50% bad debt rate = $20,000 x 0.50 = $10,000).

Accordingly, the total bad debt expense in the second scenario is $22,000 ($9,600 + $2,400 + $10,000).

Q. WHAT REVENUE DOES THE COMPANY COLLECT IN THIS HYPOTHETICAL?

A. As can be seen in the hypothetical scenario I describe, under the reconcilable Universal Service Surcharge, the Company will collect $25,600 in bad debt expense while experiencing a bad debt expense of only $22,000. The reason this result occurs is that the utility is over-collecting the bad debt associated with the incremental increase in CRP participation. In the hypothetical above, the over-collection reaches $3,600.[10]

[10] The source of this $3,600 is evident: the amount by which the CAP participant bad debt decreases by reducing low-income bills ($16,000 - $10,000 = $6,000), minus the amount by which non-participant bad debt increases by moving those dollars to non-participant bills through the Universal Service Surcharge ($6,000 - $2,400 = $3,600).

Q. HAS THE COMMISSION PREVIOUSLY RECOGNIZED THE NEED TO ELIMINATE THIS OVER-RECOVERY?

A. Yes. The Commission set forth its policy on bad debt in its CAP Policy Statement. According to the Commission's CAP Policy Statement:

> In evaluating utility CAPs for ratemaking purposes, the Commission will consider both revenue and expense impacts. Revenue impact considerations include a comparison between the amount of revenue collected from CAP participants prior to and during their enrollment in the CAP. CAP expense impacts include both the expenses associated with operating the CAPs as well as the potential decrease of customary utility operating expenses. ***<u>Operating expenses include. . .uncollectible accounts expense for writing off bad debt for these customers</u>***. When making CAP-related expense adjustments and projections, utilities should indicate whether a customer's participation in a CAP produced an immediate reduction in customary utility expenses and a reduction in future customary expenses pertaining to that account.

Pennsylvania PUC, CAP Policy Statement, Section 69.266, 52 Pa. Code § 69.266 (Supp. 389, April 2007) (emphasis added). Moreover, in examining a proposed bad debt offset in a prior rate case involving PGW, the PUC reiterated that "the Commission's CAP Policy Statement provides that the cost offset at issue should be considered."[11]

Q. PLEASE SUMMARIZE THE BASIS FOR YOUR RECOMMENDED BAD DEBT OFFSET.

[11] <u>Pennsylvania PUC v. Philadelphia Gas Works</u>, R-0006193, slip opinion, at 39, citing CAP Policy Statement (Order entered September 28, 2007). In reviewing the ALJ opinion, the Commission noted: "The ALJs also found that PGW never addressed whether double recovery is or is not possible when participation exceeds projections in CRP. Rather, PGW makes generalities of other reasons for increases in the CRP expense. The ALJs believe that the OCA made a convincing argument that double recovery is a possibility and can be alleviated by implementing a mechanism for reconciliation and that PGW did not provide a persuasive argument that the current practice guards against double recovery." Id. The Commission held: "We find the ALJs recommendation to be supported by the record as well as Section 1408 of the Code. Accordingly, we find OCA's argument to be convincing. Double recovery of uncollectible accounts expense is a possibility and can be alleviated by implementing a mechanism for reconciliation." <u>Id</u>. at 42.

A. The Company should recover its costs only once. With CAP Credits, the Company should only recover the incremental costs imposed as a result of a customer's participation in CAP. Uncollectible expenses associated with residential customers that are not CRP participants are recovered in base rates. When a customer becomes a CRP participant, the portion of the bill which is no longer billed to that participant (i.e., the CAP Credit), is instead collected from non-participants through the Universal Service Surcharge. As those dollars are added to the Universal Service Surcharge, they should be correspondingly subtracted from base rates.

The basis for adopting an offset to prevent the over-recovery of arrearage forgiveness credits is the same as the basis for adopting an offset to prevent the over-recovery of CAP Credits. The existing arrears of customers who will become CRP participants above the base CRP participation rate used in this proceeding are already included in base rates. When low-income customers that are not CAP participants at the time of the base rate case become CAP participants in the future, those pre-existing arrears will become subject to forgiveness. To the extent that those pre-existing arrears are actually forgiven, they will be collected from non-participants through the Universal Service Surcharge.

Even though the Company makes an *__upward__* adjustment in the costs they collect through the Universal Service Surcharge to reflect the forgiven arrears, they are not required to make a corresponding *__downward__* adjustment to their base rates. In fact, however, the participation by low-income customers in CRP does not create "new" costs through arrearage forgiveness. Instead, participation in CRP simply *__moves__* the unpaid bills out of the receivables attributable to the group of customers known as "residential" customers and into the "arrearage forgiveness" attributable to the group of customers known as "CAP participants." To allow the dollars of arrearage forgiveness credits to be added to the Universal Service Surcharge without correspondingly subtracting those dollars from base rates allows the Company to collect those dollars in *both* places, thus creating the over-collection to which I refer above.

iii. Why These Cost Recovery Principles Require a Carrying Cost Offset.

Q. PLEASE EXPLAIN WHY THESE PRINCIPLES ALSO REQUIRE A CARRYING COST OFFSET.

A. The carrying cost offset to CRP cost recovery reflects the fact that rather than the billed revenue recovered as CRP credits being charged to Confirmed Low-Income customers, that billed revenue will instead be collected through the Universal Service Surcharge charged to CAP non-participants who are primarily non-low-income customers. Since non-low-income customers have a better payment profile –they pay more of their bills and they pay their bills in a more timely fashion—moving these dollars from low-income bills to non-low-income bills will be collected in a more complete and timely fashion, and will thus generate a carrying cost savings. The Company is entitled to recovery of its universal service costs. But the Commission has made clear that it is entitled only to its costs net of any offsetting expense reductions.[12] The Commission has stated:

[12] As quoted above in its CAP Policy Statement, the PUC stated: "In evaluating utility CAPs for ratemaking purposes, the Commission will consider both revenue and expense impacts . . . CAP expense impacts include both the expenses associated with operating the CAPs as well as the potential decrease of customer utility operating expenses."

> In evaluating utility CAPs for ratemaking purposes, the Commission will consider both revenue and expense impacts. Revenue impact considerations include a comparison between the amount of revenue collected from CAP participants prior to and during their enrollment in the CAP. CAP expense impacts include both the expenses associated with operating the CAPs as well as the potential decrease of customary utility operating expenses. ***Operating expenses include the return requirement on cash working capital for carrying arrearages. . .***When making CAP-related expense adjustments and projections, utilities should indicate whether a customer's participation in a CAP produced an immediate reduction in customary utility expenses and a reduction in future customary expenses pertaining to that account.

Pennsylvania PUC, CAP Policy Statement, Section 69.266, 52 Pa. Code § 69.266 (Supp. 389, April 2007) (emphasis added).

Q. IS THIS CARRYING COST OFFSET NEEDED WHETHER OR NOT PGW MAKES A CLAIM FOR WHAT IT REFERS TO AS "WORKING CAPITAL" IN THIS RATE CASE?

A. Yes. There is a carrying cost associated with unpaid bills whether or not PGW makes a specific claim for "working capital." If the Company needs to borrow money to replace the dollars it does not receive because of arrears, there is a borrowing cost. If the Company does not need to borrow money to replace those dollars, it could have invested that money and received some return on it. Either way, there is a carrying cost associated with arrears.

Q. PLEASE EXPLAIN THE BASIS FOR CONCLUDING THAT LOW-INCOME CUSTOMERS HAVE A POORER PAYMENT PROFILE THAN NON-LOW-INCOME CUSTOMERS.

A. As I explain above, the PUC's Bureau of Consumer Services publishes an annual report on Universal Service Programs and Collections Performance. That annual BCS report differentiates collections performance based on Confirmed Low-Income customers and on all residential customers.[13] There can be no question that Confirmed Low-Income customers for PGW impose disproportionate payment difficulties on the utility. The Confirmed Low-Income population is not only disproportionately in arrears, but it is further in arrears. The average annual bill for a Confirmed Low-Income PGW customer is \$832, compared to an average annual bill for a residential customer generally of \$1,033. Despite having a bill 20% lower than the average residential customer, the average Confirmed Low-Income customer with an arrears has an average arrears that is 17% higher (\$704 vs. \$602). Overall, while PGW's Confirmed Low-Income customers represent 26% of the total accounts in arrears, they represent 31% of the total dollars in arrears. More low-income customers are involuntarily disconnected for nonpayment.

Q. WHY IS THIS SIGNIFICANT FOR PURPOSES OF THE UNIVERSAL SERVICE COST RECOVERY THROUGH THE UNIVERSAL SERVICE SURCHARGE?

A. Through the Company's CRP program, the Company removes part of the billings to Confirmed Low-Income customers and moves that billing to the general residential population. This occurs through the CAP Credit. The CAP Credit is the portion of the bill that is no longer charged to CAP participants (who are all Confirmed Low-Income customers) and instead is recovered through the Universal Service Surcharge charged to residential non-participants. As a result of moving this revenue from a more-payment-

[13] The BCS comparison is *not* between Confirmed Low-Income customers and *non*-low-income customers. It is between Confirmed Low-Income customers and *all* residential customers (a population that includes the Confirmed Low-Income group as one of its component parts).

troubled population to a less-payment-troubled population, to the extent that the CAP participation exceeds the base number of CAP participants in the test year, there will be an over-collection of carrying costs. The arrearage forgiveness credits, too, should be subject to this carrying cost offset for the same reasons I explain above.

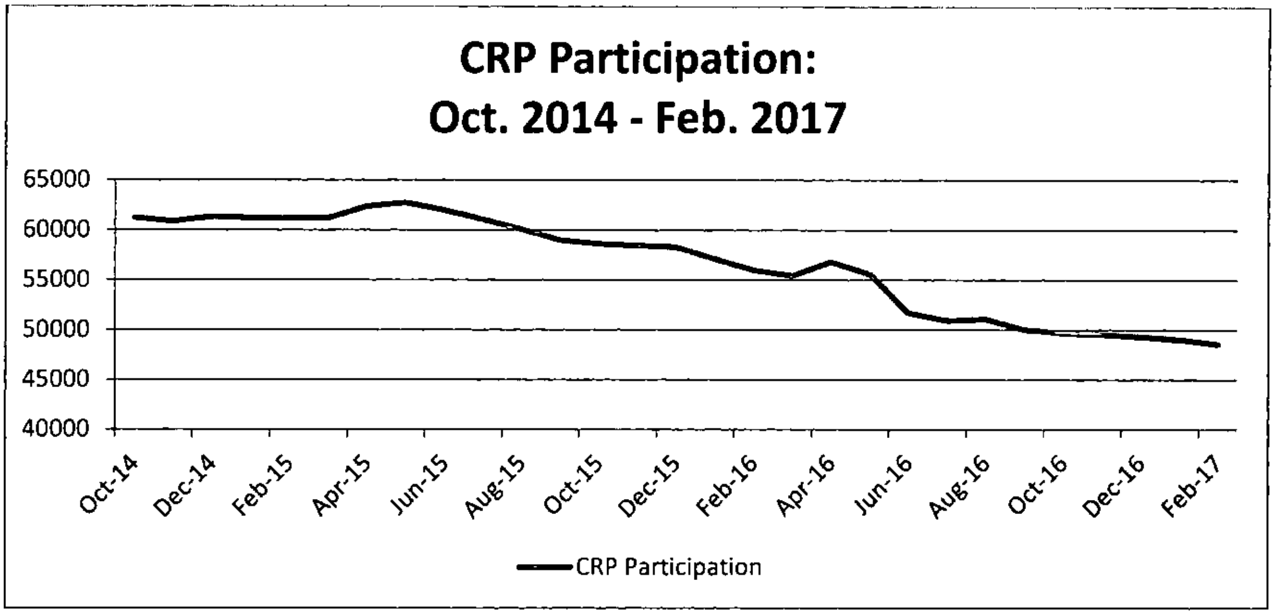
B. Establishing the CRP Baseline Participation.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. Having established the regulatory basis for imposing both a bad debt and a carrying cost offset, the first step in the process is to establish a CRP baseline participation number that will serve as the trigger for such an offset.

Q. WHAT BASE PARTICIPATION RATE SHOULD BE USED TO DETERMINE PGW'S CRP COST OFFSETS?

A. The base participation rate should reflect the CRP participation that is either explicit or implicit in reasonable PGW's rate calculations in this proceeding. The average CRP participation for the twelve most recent months is 51,473. (OCA-III-31). The CRP participation has been steadily declining for PGW. The participation rate in the most recent month for which data is available (February 2017) is a decline of nearly 13,000 CRP participants from October 2014 (61,243 – 48,580 = 12,663).



The decline is not seasonal in nature. The participation through the past three winter heating seasons (2014/2015, 2015/2016, 2016/2017), as is shown below, indicates that in the months immediately before cold weather (October), immediately during cold weather (February), and during warm weather (July), CRP participation has declined over the past three years.

	2014/2015	2015/2016	2016/2017
October	61,243	58,609	49,664
February	61,169	56,006	48,580
July	60,060	50,914	---

Q. WHAT BASE PARTICIPATION DO YOU RECOMMEND?

A. I propose a base participation rate of 51,500 (51,473 rounded to the nearly 100). The CRP participation of 51,473 is the average monthly participation for the most recent twelve months available.

C. Establishing the Bad Debt Offset.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I document what bad debt offset should be incorporated into PGW's CRP cost recovery.

Q. HOW DO YOU DETERMINE A BAD DEBT OFFSET?

A. The dollar adjustment for a bad debt offset will depend on the incremental change in the number of CRP participants and changes in the average CRP bill. Instead of making a single dollar adjustment, the over-recovery should be prevented by adopting a percentage offset to any incremental increase in CAP Credits to be passed through the Company's Universal Service Surcharge when that Surcharge is periodically reconciled. The exact dollar offset to be applied would depend on the extent to which the actual number of CRP participants exceeds the base number of CRP participants and the amount of the CAP Credits the Company seeks to recover. The adjustment should be made in the reconciliation process. The offset should be equal to the difference in the bad debt percentage for Confirmed Low-Income customers and the bad debt percentage for residential customers.

Q. WHAT BAD DEBT OFFSET IS APPROPRIATE?

A. The percentage bad debt offset for PGW's incremental CAP Credits should be 15.7%. This is derived by subtracting the bad debt rate for residential customers as a whole (9.9%) (2015 BCS Annual Report on Collection Performance and Universal Service, page 29) from the bad debt rate for Confirmed Low-Income Customers (25.6%) (2015 Annual BCS Report, p. 32).

Q. DOES THE BAD DEBT OFFSET APPLY TO FORGIVEN ARREARS AS WELL AS TO CAP CREDITS?

A. Yes. Customers who enroll in CRP with a pre-existing arrearage are eligible for forgiveness of a pro rata portion of those arrearages each month as CRP payments are made. There are no proposals to change the structure of this arrearage forgiveness program in this base rate case. The reconciliation process should offset the arrearage forgiveness credits by an amount equal to the bad debt offset I documented above (15.7% for bad debt).

Q. HAS THE COMMISSION PREVIOUSLY RECOGNIZED THE NEED TO PREVENT THE OVER-RECOVERY OF ARREARAGE FORGIVENESS COSTS THROUGH A UNIVERSAL SERVICE SURCHARGE?

A. Yes. In its CAP cost recovery order, the Commission specifically addressed the issue, stating:

> There is some merit in reasoning that arrearage forgiveness amounts should not be recovered separately because these are amounts that, but for the existence of the CAP program, would be included within the utility's claim for uncollectible expenses. The law requires "full recovery" of CAP costs, but not "double recovery." At the same time, utilities should have the opportunity to demonstrate when they seek to establish a surcharge that arrearage forgiveness costs are not completely covered by uncollectible expenses. *The utilities should bear the burden of proving that allowing*

> *recovery of their claim for arrearage forgiveness costs will not give them double-recovery of these costs.*[14]

(emphasis added). PGW has made no showing as required by this Commission order.

D. Establishing the Carrying Cost Offset.

Q. IS THERE A SPECIFIC CARRYING COST DOLLAR OFFSET THAT YOU PROPOSE FOR THE RATES IN THIS PROCEEDING?

A. No. As I explain with respect to the bad debt offsets, the impact of exceeding the base number of CRP participants for purposes of the cost recovery of CAP credits requires no single dollar offset. The amount of the carrying cost offset depends on the number of actual CRP participants exceeding the base number of CRP participants and the level of the CAP Credits sought to be recovered. What is needed, therefore, is to prevent the over-recovery of carrying costs by adopting a percentage offset for incremental CAP Credit costs collected through the Universal Service Surcharge.

Q. HAVE YOU CALCULATED A CARRYING COST OFFSET FOR CAP CREDITS?

A. Yes. The appropriate carrying cost offset for incremental CAP credits is 21%. This 21% reflects the fact that moving billed revenue from Confirmed Low-Income accounts to residential accounts generally will move those billings to accounts that have lower arrears based on higher bills.

[14] Final Investigatory Order, at 38 – 39.

Q. IS THIS A CONSERVATIVE ESTIMATE?

A. Yes. Confirmed Low-Income arrears not only have larger arrears on smaller bills, but they have older arrears as well. More low-income arrears, in other words, will fall into aging buckets of 60+ days or 90+ days than would residential arrears generally. Given two accounts, for example, one with $100 of 30-day arrears and the other with $100 spread over 30-day, 60-day and 90-day arrears, the second account would impose more revenue lag days and generate a higher need for carrying costs. While OCA asked PGW for its aging of arrears for Confirmed Low-Income accounts, PGW said that it does not maintain nor could it develop such information. (OCA-III-12). As a result, I cannot make an adjustment based on the reduced age of arrears for CAP credits collected from nonparticipants through the Company's Universal Service surcharge. Calculating a "bills-behind" statistic, however, as developed by the Commission's BCS, demonstrates that such an adjustment would have been appropriate given the older age of low-income arrears. The inability to make such an adjustment based on changes in the aging of arrears redounds to the benefit of PGW.

Q. DO YOU APPLY A CARRYING COST OFFSET TO ARREARAGE FORGIVENESS?

A. Yes. Arrearage forgiveness credits to be collected through the Universal Service Surcharge should also be subject to the same offset. Such an offset should be imposed for incremental arrearage forgiveness credits for the same reasons that such an offset should be imposed for incremental CAP Credits.

Q. DO YOU PROPOSE THAT THE CARRYING COST OFFSET FOR INCREMENTAL ARREARAGE FORGIVENESS CREDITS BE THE SAME AS THE OFFSET FOR CAP CREDITS?

A. Yes.

E. Summary of CRP Cost Recovery Recommendations.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS IN THIS SECTION OF YOUR TESTIMONY.

A. I recommend that the PGW be required to implement the following actions regarding its respective Universal Service Surcharge.

- The PGW Universal Service Surcharge should incorporate a bad debt offset for CAP Credits of 15.7%.
- The PGW Universal Service Surcharge should incorporate a carrying cost offset for CAP Credits of 21%.
- The PGW Universal Service Surcharge should incorporate a bad debt offset for Arrearage Forgiveness Credits of 15.7%.
- The PGW Universal Service Surcharge should incorporate a carrying cost offset for Arrearage Forgiveness Credits of 21%.

Q. IS THERE SPECIFIC TARIFF LANGUAGE THAT HAS BEEN ADOPTED BY OTHER UTILITIES SETTING FORTH SUCH OFFSETS?

A. Yes. The offset that should be applied to PGW costs should be incorporated into its tariff substantially as follows:

> In the event that the average annual CRP participation in the preceding Reconciliation Year exceeds 51,500 participants, actual costs recovered through PGW Universal Service Surcharge shall reflect CRP Credits and actual Pre-Program Arrearage Forgiveness Credits for all customers up to the 51,500 participation level. The Company shall offset the average annual CRP Credits and Pre-Program Arrearage Forgiveness Credits by 36.7% per participant for the preceding Reconciliation Year for any and all CRP customers exceeding the 51,500 participation level.

The tariff language I propose mirrors the tariff language adopted for Pennsylvania's four FirstEnergy utilities.

Part 3. Late Charges and the Sequencing of Residential Customer Payments.

Q. PLEASE DESCRIBE THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I document the fact that PGW sequences residential payments to apply those payments against newer non-interest-bearing late charges before applying those payments against older interest-bearing principal. This sequencing[15] occurs within the context of PUC regulations which state that PGW may not charge a late fee exceeding 18% annual simple interest. In saying "simple interest," what the PUC has said is that a utility may not charge a late fee on unpaid late fees. That would be "compound interest." Being limited in the interest rate allowed, PGW's sequencing of the posting of payments maximizes the size of the unpaid bill against which that interest rate would be charged.

[15] Throughout my testimony, "ordering" a payment and "sequencing" a payment are used interchangeably.

Q. PLEASE EXPLAIN WHAT YOU MEAN WHEN YOU REFERENCE THE "SEQUENCING" OF PAYMENTS.

A. The practice of sequencing payments involves sequencing the "posting order" of consumer payments. In short, the practice posts payments against transactions in a specified sequence. That sequence can have an impact on the amount the consumer must pay.

Q. PLEASE DESCRIBE THE SEQUENCING OF PAYMENTS MADE BY PGW RESIDENTIAL CUSTOMERS.

A. The sequencing of payments is set forth in Schedule RDC-1 (pages 1 and 2). Schedule RDC-1 documents that PGW posts all customer payments so that they reduce an accumulated late fee balance to $0 before applying customer payments to any balance for current usage. PGW does not dispute that it sequences posting payments in this order. In response to discovery, PGW stated: "When payments are received, they are posted according to a hierarchy: deposit if required is posted first; then the late payments outstanding are satisfied; then the remaining balance of the payment is posted to the oldest money." (OCA-III-34).

Q. HAS THE COMMISSION EVER EXPRESSED AN OPINION ON THE REASONABLENESS OF PGW'S PAYMENT POSTING PROCESS?

A. Yes. By Order dated December 8, 2016, the PUC adopted the Initial Decision in a PGW complaint proceeding.[16] That Initial Decision had held: "PGW's application of partial payments out of order so that the most recent late payment charges are paid before the gas charges due for prior service constitutes a failure to provide adequate and reasonable service in accordance with 66 Pa. C.S.A. § 1501, as well as a violation of 52 Pa. Code [§] 56.22." (Docket No. C-2012-2304183, Opinion and Order, at 3). While the PUC has granted a PGW motion to reconsider its holding, nonetheless, PGW's process of resequencing customer payments to apply them to customer bills out-of-time in order to maximize the level of bills, and the receipt of revenue, has been held to be unlawful.

Q. PLEASE EXPLAIN THE RESULTS OF PGW'S SEQUENCING OF THE APPLICATION OF THE CUSTOMER'S PAYMENT IN THE ABOVE ILLUSTRATION.

A. The result of PGW's ordering of customer payments is that more recent late payment charges are paid before older unpaid principal balances are paid. In the illustrative scenario in Schedule RDC-1 (page 1 of 2), for example, at the time of the April 10th payment, by paying the cumulative late payment balance before paying <u>*any*</u> principal, the March late payment charge is paid before the January principal is paid.

Since PGW is barred by law from imposing late charges on late charges, PGW's choosing to post customer payments against more recent late charges before retiring older charges for principal artificially inflates total costs to the customer. It leaves older

[16] SBG Management Services / Colonial Garden Realty Company v. Philadelphia Gas Works, C-2012-2304183, SBG Management Services / Simon Garden Realty Company v. Philadelphia Gas Works, C-2012-2304324 (consolidated), Opinion and Order, December 8, 2016.

interest-bearing charges outstanding while retiring newer non-interest bearing charges. The continuing growth in the outstanding interest-bearing principal, while newer non-interest-bearing late charges are zeroed out by customer payments, is clearly demonstrated in Schedule RDC-1, page 2 of 2.

Q. WHAT IS THE DIFFERENCE IN ANNUAL INTEREST BETWEEN A 1.5% RATE SIMPLE INTEREST AND A 1.5% RATE COMPOUNDED?

A. PGW charges a 1.5% monthly late payment charge. If charged on a non-compounded basis, it results in an annual percentage rate interest of 18%. If charged on a compounded basis, it results in an annual percentage rate interest of 19.562%.

Q. PLEASE DESCRIBE YOUR FIRST OBJECTION TO POSTING CUSTOMER PAYMENTS AGAINST TRANSACTIONS OUT OF THE ORDER IN WHICH THE TRANSACTION WAS INCURRED.

A. My first objection is that PGW has not committed its payment posting sequencing to a Commission-approved tariff. The first purpose of placing the posting order in a tariff means that residential customers have been placed on notice of what the posting order is and, just as importantly, how a bill would be calculated. In addition, placing the posting order in a tariff allows the PUC to review its lawfulness and its reasonableness.

Q. HAS PGW PUBLISHED ITS POSTING ORDER OF CUSTOMER PAYMENTS IN A TARIFF?

A. No. (OCA-III-37)

Q. HAS PGW EVER PRESENTED ITS SEQUENCING OF PAYMENTS TO THE COMMISSION FOR REVIEW?

A. No. The only time the PUC has reviewed the PGW posting order was in Formal Complaint proceedings. In both instances, the out-of-sequence posting engaged in by PGW was determined to be unreasonable and unlawful.[17]

Q. PLEASE DESCRIBE YOUR SECOND OBJECTION TO POSTING CUSTOMER PAYMENTS AGAINST TRANSACTIONS OUT OF THE ORDER IN WHICH THE TRANSACTION WAS INCURRED.

A. Substantively, PGW's payment posting order is subject to the statutory dictate that rates and services be "just and reasonable." Even setting aside the fact that the PGW posting order has previously been held to be in contravention of the PUC's regulations, the PGW posting order violates this "just and reasonable" requirement on several grounds.

First, there is no cost basis for allowing PGW to sequence payment posting to apply payments against more recent non-interest-bearing late charges before applying them against older interest-bearing principal.

[17] SBG Management Services / Colonial Garden Realty Company v. Philadelphia Gas Works, C-2012-2304183, SBG Management Services / Simon Garden Realty Company v. Philadelphia Gas Works, C-2012-2304324 (consolidated), Opinion and Order, December 8, 2016; SBG Management Services / Marchwood Realty Company v. Philadelphia Gas Works, C-2012-2308454, SBG Management Services / Oak Lane Court Realty Co. v. Philadelphia Gas Works, C-2012-2308462; SBG Management Services / Fern Lock Realty Co. v. Philadelphia Gas Works, C-2012-2308465 (consolidated), Initial Decision, January 13, 2016.

- The time it takes to engage in collection efforts does not differ based upon the composition of an unpaid balance as between unpaid principal and unpaid late charges.
- The type of collection effort invoked does not differ based on the composition of an unpaid balance between unpaid principal and unpaid late charges.
- Different staff persons are not used for collections based upon the composition of an unpaid balance (between late charges and principal).
- The cost of money does not differ based upon the composition of an unpaid balance (between late charges and principal).

In short, from a cost and revenue perspective, the only difference between one unpaid balance comprised of a higher amount of unpaid principal and another unpaid balance comprised of a higher amount of unpaid late charges, all other things equal, is that the balance with the higher amount of unpaid principal will generate higher late fee revenue for the Company. In short, no cost basis exists to justify sequencing the customers' payments so as to apply the customers' payments to utility bills out-of-time. The lack of a cost basis is one more element demonstrating that the PGW practice of sequencing payments fails the just and reasonable test.

Q. PLEASE DESCRIBE YOUR THIRD OBJECTION.

A. In Pennsylvania, the PUC seeks to administer the utility bill payment process to minimize late payments by customers. One explicitly stated intent of the PUC's regulations is that "[p]ublic utilities ***shall*** utilize the procedures in this chapter to effectively manage customer accounts to prevent the accumulation of large, unmanageable arrearages." (emphasis added).[18]

When given alternative choices on how to treat customer payments, the PUC has consistently chosen the alternative that would minimize the need to impose late charges. The PUC's regulations, for example, provide that:

- For remittances by mail, "payment shall be deemed to have been made on the date of the postmark."[19] The PUC, in other words, does not allow PGW to maximize fees by assigning the payment date to the date a payment was received (let alone to the date when a customer payment was both received and processed).
- In the absence of payment by mail, "the effective date of payment to a branch office or authorized payment agent . . .is the date of actual receipt of payment at that location."[20] Again, the regulations are designed to apply money against an account in as expeditious manner as possible to meet the objective, quoted above, of "prevent[ing] the accumulation of large, unmanageable arrearages." The regulations do not allow a holding period by the branch office (or payment agent) before payments are applied against a customer's balance. Nor does the PUC allow for a delay between when payments are "actually received" and when those payments are applied against customer accounts.

These principles are applied across-the-board. If a utility payment is made by check, the payments must be credited on the day the check is delivered, not when it is cashed. If a

[18] 52 Pa. Code §56.1 (2014).
[19] 52 Pa. Code § 56.21(2)(i) (2014).
[20] 52 Pa. Code § 56.21(3) (2014).

check is delivered "after hours" to the utility, the payment is as of the date of delivery. Checks received on one day may not be dated on the following day for purposes of administrative convenience.

Q. HOW AND WHY ARE THESE PUC POLICIES RELEVANT TO A REVIEW OF THE SEQUENCING OF CUSTOMER PAYMENTS REGARDING LATE PAYMENT FEES?

A. It would be inconsistent, at best, for the PUC to address the day of payment receipt by PGW, and then to allow PGW to apply that payment out-of-time by months. It would be inconsistent to require PGW to post a mailed payment upon mailing rather than a few days later upon receipt, and then to allow PGW to apply that payment to bills out-of-time by months. It would be just as inconsistent to require PGW to deem a payment received upon receipt by a third-party payment agent, but then to allow PGW to maximize late fees by applying that payment to more recent non-interest bearing late fees before posting those payments against older interest-bearing principal. It would be inconsistent for the PUC to require that a payment be deemed received "today" rather than "tomorrow" when received late in the day, but then to allow PGW to post that payment to pay bills months out-of-time.

Q. DOES THE PGW POSTING ORDER AFFECT A SIGNIFICANT NUMBER OF CUSTOMERS OR A SIGNIFICANT DOLLAR AMOUNT OF ARREARS?

A. Yes. In 2015, the last year for which BCS has reported data (published in 2016), PGW had 80,205 residential customers in debt, owing an average monthly arrears of $48.3

million. Of these total residential customers in debt, 13,169 were Confirmed Low-Income customers, owing an average of $14.96 million each month. Clearly, to the extent that PGW is resequencing customer payments to post those payments against unpaid bills out-of-time with the date on which those bills were accrued, the financial impact on residential customers generally, and on Confirmed Low-Income customers specifically, would be substantial.

Q. WHAT DO YOU CONCLUDE?

A. I conclude that PGW's practice of out-of-sequence posting of customer payments against more recent non-interest-bearing late payment charges prior to applying them against older interest-bearing principal is neither just nor reasonable. The PGW practice is not designed to "effectively manage customer accounts to prevent the accumulation of large, unmanageable arrearages." The practice results in PGW effectively charging compound interest.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that PGW should be directed to modify its tariff and practices to comply with the PUC mandate that late fees represent annual simple interest rather than posting payments to generate the same effect as compounded interest. I recommend that the PUC bar PGW's unreasonable out-of-sequence payment posting to maximize late payment charges and to require PGW to apply payments against bills in the order and timing in which they were incurred.

Part 4. Low-Income Repair / Replacement Program.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I propose a program directed toward low-income customers who have broken or inoperable gas heating systems causing those customers to instead rely on inefficient, and extraordinarily expensive, space heaters. As a result of these actions, the following harms arise:

- Less expensive natural gas heating is replaced with more expensive non-gas portable space heaters, contributing to unpaid bills, higher carrying costs, and more bad debt from Confirmed Low-Income customers to the electric utility providing service for the portable space heaters.
- To the extent that de facto electric heating customers are participants in electric CAPs, such participants will impose higher than necessary electric universal service (i.e., CAP) costs on program non-participants.

In short, everyone loses. The gas company loses sales. The low-income gas/electric customer (often one and the same person) faces unaffordable bills. The electric company faces increased universal service costs combined with decreased universal service program effectiveness.

Q. AREN'T THESE LOW-INOCME CUSTOMERS SERVED THROUGH LIURP?

A. Not generally. Natural gas utilities do not serve these customers through LIURP since the impact of making the gas system repairs is to use usage reduction dollars to increase natural gas usage, rather than to reduce such usage. A furnace repair / replacement program is not a usage reduction program and I do not set it forth as such.

Q. HOW DO YOU KNOW THAT THERE IS A PHENOMENON WHERE NATURAL GAS HEATING SYSTEMS ARE INOPERABLE AND CUSTOMERS CANNOT AFFORD TO PAY FOR REPAIR OR REPLACEMENT?

A. These circumstances have been well-documented over time. The federal LIHEAP office, in the U.S. Department of Health and Human Services ("HHS"), undertakes a periodic survey of LIHEAP recipients. One question that is consistently asked of LIHEAP recipients is whether there were cold weather circumstances where they could not use their heating system because it was broken. The data is as follows:

Unable to use main source of heat because system was broken and unable to pay for repair or replacement	
2011 NEADA LIHEAP Survey[21]	13%
2009 NEADA LIHEAP Survey	13%
2008 NEADA LIHEAP Survey	13%
2005 NEADA LIHEAP Survey	9%

This unavailability of the main source of heat, due to the fact that the system was broken, is a more prevalent problem for the lowest income customers. The NEADA survey finds that 50% more households with income below 50% of Poverty experience this problem than do households with income between 50% and 150% of Poverty. Twice as many of the lowest income households experience the problem than do households in the highest income range (recognizing that all respondents are low-income LIHEAP recipients).

[21] NEADA is the National Energy Assistance Directors Association, which prepares the survey for HHS.

Unable to use main source of heat because system was broken	0 – 50% FPL	51 – 100% FPL	101 – 150% FPL	Over 150% FPL
2011 NEADA Survey	18%	12%	12%	9%
2009 NEADA Survey	13%	13%	12%	11%
2008 NEADA Survey	20%	12%	9%	15%
2005 NEADA Survey	21%	9%	8%	1%

In addition, based on data from the 2005 U.S. Department of Energy's Residential Energy Consumption Survey ("RECS"), APPRISE, Inc. (a firm that frequently does universal service evaluations in Pennsylvania) found that, nationwide, 1,581,233 low-income customers could not use their primary heating source because the system was broken and they could not afford to repair or replace it. This represented roughly 4.4% of all low-income customers in the country (in contrast to the NEADA Survey, which was limited to energy assistance recipients).[22]

Q. WHAT DO YOU CONCLUDE?

A. While I do not have data specific to PGW regarding the exact prevalence of circumstances where the natural gas main heating system is broken in a low-income home, and the customer cannot afford to repair it, the data above suggests that it is reasonable to conclude that there would be a significant number of PGW low-income customers that experience this problem. PGW reports that it has a substantial number of customers that receive LIHEAP Cash or LIHEAP Crisis grants each year:

[22] APPRISE, Inc. (Feb. 2010). Final Report: Dimensions of Energy Insecurity for Low-Income Households, LIHEAP Special Study of the 2005 Residential Energy Consumption Survey, prepared for the federal LIHEAP Office, U.S. Department of Health and Human Services.

PGW (OCA-III-1)	LIHEAP Cash	LIHEAP Crisis	Total LIHEAP
2013	65,690	11,401	77,091
2014	66,410	13,640	80,050
2015	59,810	13,976	73,786

A 10% rate of inoperable gas heating systems (based on the NEADA Surveys) would mean that between 7,400 and 8,000 PGW LIHEAP recipients are likely to experience this problem. A 13% rate of such systems (again based on the NEADA Surveys), would mean that between roughly 9,600 and 10,400 PGW customers experience the problem. Applying the RECS 4.4% figure to PGW's 178,899 estimated low-income customer base yields an estimate of 7,872 customers who experience the problem.

Q. WHAT DO YOU RECOMMEND?

A. I recommend the following with respect to the treatment of situations where PGW customers with income at or below 200% of Federal Poverty Level are unable to use their natural gas system as a primary heating source because the system is broken and the customer is unable to pay to repair or replace it:

- PGW should adopt a program to repair or replace broken systems that represent the main heating system in a low-income home where the customer has used, or is likely to use, electric space heaters (or other unsafe heating sources) as a replacement source of heat. The program should be administered by PGW's LIURP service providers.
- PGW should fund this program at the rate of $500,000 per year, through its Universal Service Surcharge, subject to revision at the time PGW submits its next triennial USECP.

- The program should be adopted as a "pilot" program and should be treated as such for purposes of cost recovery and evaluation.

Q. UPON WHAT DO YOU BASE YOUR PROPOSED SPENDING OF $500,000 FOR THE PROGRAM?

A. I recommend that the PGW program be modeled on the Peoples Natural Gas Emergency Furnace / Service Line Repair Assistance Program. Peoples Natural Gas budgets $400,000 annually to serve roughly 140 households, or roughly $2,900 per household served. Scaling a program for PGW to reflect the fact that PGW has roughly two times the number of Confirmed Low-Income customers as does Peoples Natural Gas (91,092 Peoples Confirmed Low-Income vs. 178,899 PGW Confirmed Low-Income) yields a program budget of $800,000. I then scaled back the budget to reflect its pilot nature.[23] This budget would allow PGW to treat 173 low-income customers each year.

While the Peoples program is not explicitly directed toward low-income customers using de facto heating because of inoperable natural gas heating systems, I have attached, for purposes of showing a model program, the Peoples Natural Gas January 2016 description of its Emergency Repair Assistance Program as Appendix B. The Peoples, Columbia Gas, and NFGDC natural gas company programs, while differing in their details, all represent the same basic approach to the need for a program as I have described above.

[23] Should a full program ultimately be found appropriate, a new look at the budget would be needed.

Q. WHAT IS THE SIGNIFICANCE OF YOUR RECOMMENDATION THAT THE PROPOSED PROGRAM BE TREATED AS A PILOT PROGRAM?

A. I have examined the required demonstrations of the repair and replacement programs offered by, and approved for, Pennsylvania's other natural gas utilities. My proposal is in compliance with the demonstrations required in each such situation. The PUC has required Pennsylvania natural gas utilities operating such programs to operate them on a pilot basis and to evaluate them after-the-fact. Consider, for example:

- For National Fuel Gas (Docket M-2013-2366232), the PUC considered a \$300,000 Emergency Fund Pilot Project. The PUC approved the program, noting: "there are differences in reporting requirements relative to LIURP funds expended in the normal course of the LIURP program and LIURP funds expended in a LIURP pilot program. If NFG wishes to continue this program beyond the end of the USECP 2014-2016, it will be necessary to begin reporting the program as a part of regular LIURP reporting, rather than as a pilot. The funds expended in the pilot will then need to be reported consistent with 52 Pa. Code § 58.15 relating to program evaluation."

- In Docket R-2009-2149262, Columbia Gas proposed to increase the funding for its Emergency Repower Program from \$250,000 per year to \$500,000 per year. In approving the settlement incorporating that increase, the PUC adopted the program funding without comment.

- In Docket M-2015-2507139, the Commission considered PECO Energy's proposed "De Facto Heating Pilot," funded at \$700,000. The PUC described the PECO program in virtually the same way as I described my proposal for PGW. ("PECO will increase its LIURP budget by \$700,000 to implement measures to help de facto heating customers. De facto heating refers to households with non-heating electric accounts (Rate R) that use electricity for heating because their primary heating source (e.g., oil, gas) is inoperable or unaffordable. Many of these households then use potentially unsafe and inefficient space heaters. This subsequently increases the customer's electric bill, compounding any existing payment troubles.") Rather than requiring a before-the-fact assessment of "cost-effectiveness," the Commission specifically said: "we <u>*commend PECO*</u> for addressing the de facto heating problem by implementing this program." (Final

Order, August 11, 2016, at 45). (Emphasis added). The PUC approved the PECO program and directed PECO to submit further "implementation details." (Final Order, page 48).

- In Docket R-2010-2201702, in which Peoples Natural Gas first proposed its Emergency Furnace and Line Repair Program, the Commission approved the program without an ex ante demonstration of cost-effectiveness, noting that "LIHEAP and LIURP cannot meet all of the needs of the low-income community because, even with these programs, there is still a need for additional low income weatherization and emergency furnace and lines repairs. The adoption of these two programs and their recovery under Rider F will provide important weatherization and emergency furnace and line repair benefits to low income customers that may not otherwise be available." (Recommended Decision, at 31, adopted in total without further comment, Order, June 9, 2011).

- When Peoples proposed to expand its program in Docket M-2015-2432515, the Commission approved that proposal, stating: "we do recognize that the Emergency Furnace Repair/Replace program may provide a much needed and beneficial service to low-income customers even though it does not fit within the parameters of traditional LIURP or any other Universal Service Program. While this program may reach customers who are outside traditional LIURP eligibility, there is sufficient similarity to allow the program to continue as a pilot under LIURP. The Commission has allowed such an arrangement before when NFG implemented a furnace repair program as a LIURP pilot.[24] Such an arrangement serves multiple purposes: It allows the emergency furnace program to continue throughout the duration of the 2015-2018 USECP without disruption; it allows for the use of Universal Service Rider F funding, as it would now, albeit temporarily, become part of an existing Universal Service Program (LIURP); and it allows time for PNGC and stakeholders to collect data and evaluate the necessity and effectiveness of this program for the future as well as explore funding options if the Emergency Furnace Repair/Replace program is not thereafter fully incorporated into LIURP." (Final Order, at 43, December 17, 2015). The PUC assessment of this Peoples program applied, also, to the corresponding Equitable Gas Emergency Furnace Repair/Replace program.

Part 5. Budget Billing.

[24] *See NFG 2014-2016USECP Final Order*, Docket No. M-2013-2366232 (May 22, 2014), at 28-29. NFG's Furnace Program involved an energy audit and weatherization measures when necessary, in addition to the furnace repair/replacement.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I examine whether PGW is taking reasonable actions to enroll and retain customers on Budget Billing. Budget billing is important to the Company in two respects. First, Budget Billing will assist customers to pay their bills in a full and complete fashion over the course of a year. Second, Budget Billing helps PGW to stabilize its receipt of revenue over the course of the year, thus ameliorating the Company's claimed need to move more of its billing into fixed monthly charges to meet that need. In 2015, the last year for which full data is available, roughly 9.3% of PGW's residential customers were on Budget Billing (43,989 Budget Billing accounts out of 470,871 residential customers). PGW would be well-served to increase this number and percentage.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR ASSERTION THAT BUDGET BILLING WILL ASSIST CUSTOMERS TO PAY THEIR BILLS IN A MORE COMPLETE AND TIMELY FASHION.

A. Several lines of analysis support this conclusion. First, few Budget Billing customers get into arrears and stay in arrears. Below is data for 2015, the last year for which I have monthly data for both Budget Billing customers and residential customers as a whole. The data below, for example, shows the number of Budget Billing accounts in arrears in any given month in 2015 compared to the number of residential accounts as a whole that are in arrears in any given month. While there is unquestionably a seasonal variation in Budget Billing arrears, despite its levelized billing, unlike the residential population as a whole, Budget Billing customers do not fall so far into arrears that they cannot clear those arrears by the end of the year. While for example, the maximum number of Budget Billing customers in arrears reached 33,125 accounts (in May 2015), the number of Budget Billing accounts in arrears had fallen back to 3,345 in November and to only 1,775 in December (only 5.4% of the maximum). In contrast, while the maximum number of residential customers as a whole in arrears reached 102,684 in May 2015, the number of residential accounts as a whole in arrears had declined to only 65,517 by December (63.8% of the maximum). The ratio of the month with the maximum number of accounts in arrears to the month with the minimum number of accounts in arrears was 18.6:1 for Budget Billing, while it was only 1.6:1 for residential customers. These ratios show that Budget Billing customers who are in arrears at *some* point in the year succeed in clearing their arrears while residential customers in general do not.

We know that the lack of arrears within the Budget Billing population cannot be attributed to PGW simply removing accounts in arrears from Budget Billing. The data below shows the number of accounts removed from Budget Billing for *any* reason (including voluntary removal).[25] Even when one includes voluntary removals, the number of accounts removed from Budget Billing does not account for the reduced number of accounts in arrears.

[25] PGW does not track the number of accounts removed from Budget Billing for credit and collection reasons. (OCA-VIII-5(a)).

	Budget Billing Accts in Arrears	BB Removed (any reason)	Residential as a Whole Accts in Arrears
Jan-15	7,858	1,408	62,835
Feb-15	16,798	1,253	69,593
Mar-15	25,857	1,261	80,263
Apr-15	33,051	1,304	91,202
May-15	33,125	1,413	102,684
Jun-15	27,255	2,412	99,948
Jul-15	22,306	1,462	93,038
Aug-15	16,774	1,458	84,965
Sep-15	11,523	1,427	76,474
Oct-15	6,635	1,368	69,467
Nov-15	3,345	1,374	66,473
Dec-15	1,775	1,513	65,517
Minimum	1,775		62,835
Maximum	33,125		102,684
Ratio Maximum:Minimum	18.6:1		1.6:1

Q. IS THERE OTHER DATA THAT DEMONSTRATES HOW BUDGET BILLING HELPS IMPROVE PAYMENT PATTERNS?

A. Yes. Schedule RDC-2 presents the dollars of arrears for Budget Billing customers and for residential customers as a whole broken down by the aging of arrears. It is immediately apparent that within the population of dollars in arrears, a far greater percentage are only 31 – 60 days in arrears for Budget Billing customers than for residential customers as a whole. While 44% of the Budget Billing dollars in arrears are only 31 – 60 days in arrears, only 10% of the residential dollars in arrears have arrears that age. Similarly, while 20% of Budget Billing accounts in arrears are 61 – 90 days in arrears, only 7% of residential accounts in arrears are. Conversely, while more than 80% of residential dollars of arrears are more than 91 days old, less than half of Budget Billing dollars of arrears are that old. Even if I eliminate the oldest arrears (91+ days) from consideration, Schedule RDC-2 shows that for dollars of arrears 90 days or younger, far more Budget Billing arrears are younger than for the residential arrears as a whole. While 51% of the Budget Billing arrears 90 days old or younger fall into the youngest category, only 17% of the residential arrears as a whole do.

Finally, overall, PGW data shows that the average arrearage, of Budget Billing accounts in arrears, was $225 in 2015. In contrast, data from annual BCS report on collections performance and universal service reports that the average arrears of residential accounts as a whole in arrears in 2015 was more than $602.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR ASSERTION THAT BUDGET BILLING WILL HELP PGW STABILIZE ITS RECEIPT OF REVENUE OVER THE COURSE OF A YEAR.

A. Quite aside from improving the payment patterns of participants in Budget Billing, moving an increasing number of residential customers to Budget Billing will stabilize revenue over the course of a year. The Company provided the average bill for a space-heating customer by month for 2015. (OCA-III-8). For ease of analysis, assuming that all customers are space-heating, in 2015, the average bill multiplied by each month's number of space heating customers yields an aggregate annual billing of $513 million. Due to the nature of the space heating customers, however, clearly the greatest majority of those bills ($318 million; 62%) arise in January through April. In contrast, the aggregate billings of May through November yield only $149 million (29%) of the Company's total annual revenue. By moving more customers to Budget Billing, the Company will receive roughly 8.4% of its revenue every month.

It is important to note the distinction between billings and receipts. Billed dollars are those dollars that are charged to customers. Receipts are those dollars actually received by PGW. Simply because PGW currently issues the bulk of its bills during the winter months, it does not collect the bulk of its receipts in those same winter months. Schedule RDC-3 shows that PGW only receives from 60% to 70% of its billed revenue as actual receipts in the winter months. In contrast, PGW bills fewer dollars, but receives more revenue, during the warm weather months. As Schedule RDC-3 demonstrates, PGW receives between roughly 130% and 170% of its billed revenue as actual receipts in the warm weather months. Levelized Budget Billing will help PGW generate more of its actual receipts more equally over each month.

Q. DOESN'T YOUR CONCLUSION ASSUME THAT PEOPLE DO NOT ENROLL IN BUDGET BILLING ONLY DURING THE WINTER MONTHS?

A. To a degree, my conclusion does depend on the premise that PGW customers do not enroll in Budget Billing only in the winter months, thus developing bill balances and leaving the system during the warm weather months. The Company's own data, however, shows that while there is some seasonality to Budget Billing new enrollments, the seasonality is not substantial. While clearly, on a month-by-month basis, most customers newly enter Budget Billing in the months of November through February, there is nonetheless a substantial population that enters into Budget Billing in the remainder of the year. For example, while from October 2015 through February 2016, PGW enrolled 10,390 new customers in Budget Billing, in the prior seven months, the

Company had enrolled 7,520 new Budget Billing customers. While from October 2016 through February 2017, PGW enrolled 11,778 new Budget Billing customers, in the prior seven months, the Company had enrolled 4,035. (OCA-VIII-5). For PGW, new enrollment in Budget Billing sees an increase in the immediate pre-winter months, but that increase does not remain steady throughout the winter months.

Q. DOES PGW IMPOSE BARRIERS THAT IMPEDE RESIDENTIAL CUSTOMERS FROM ENTERING INTO BUDGET BILLING?

A. Yes. One barrier that PGW imposes, for example, is that if a customer has fewer than nine months of billing at their current address, PGW will place that customer on a Budget Billing plan with a payment of $190/month for heating customers and $75/month for non-heating customers. (OCA-VIII-7, Attachment A). The Company's own data, however, demonstrates the unreasonableness of these figures. In the 27 months of October 2014 through December 2016 (which incorporate the 2014/2015, 2015/2016 and the first part of the 2016/2017 heating seasons), in only one month (February 2015) did the *monthly* heating bill for the individual month equal or exceed $190. During this same most recent 27 month history, in <u>*no*</u> month did the monthly non-heating bill equal or exceed $75. The maximum one-month average non-heating bill during that 27 month period, PGW data shows, was only $54.39, less than three-quarters of what PGW is billing as a levelized amount over twelve months.

In contrast to the $190 default Budget Billing amount imposed on heating customers, the 12-month average heating bills for PGW residential customers ranged from a low of

$77.22 (November 2015 – October 2016) to a high of $95.88 (October 2014 – September 2015). In contrast to the $75 default Budget billing amount imposed on non-heating customers, the 12-month average heating bills for PGW residential customers ranged from a low of $32.30 (September 2015 through August 2016) to a high of only $36.43 (October 2014 through September 2015).

Q. WHAT DO YOU RECOMMEND?

A. I recommend that PGW should be directed to comply with PUC regulation 52 Pa. Code § 56.12(7) which requires that Budget Billing amounts reflect "average estimated public utility service costs" over a 10-, 11- or 12-month period. Imposing a default Budget Billing amount that is two-times or more higher than the average annual residential bill does not comport with that PUC directive.

Q. DO YOU HAVE A PARTICULAR CONCERN ABOUT HOW THIS DEFAULT BUDGET BILLING AMOUNT AFFECTS LOW-INCOME CUSTOMERS?

A. Yes. I have two concerns. First, as I discuss in more detail above, the average annual usage and average annual bill for Confirmed Low-Income customers is substantially lower than the usage and bills for residential customers as a whole. The average low-income bill of $832 is only 80% of the average residential bill of $1,033. The unreasonably high default Budget Billing amounts imposed on residential customers would be even more unreasonable when compared to substantially lower low-income bills.[26]

Second, low-income customers are the customers most likely to be adversely affected by the imposition of a default Budget Billing amount. Census data from the American Community Survey ("ACS") repeatedly demonstrates that low-income households are more mobile than are non-low-income households. (see, e.g., ACS Table B07010, Table B07011, Table B07410, Table B25039, Table S0701). Those customers who are more likely to have fewer than nine months of billing data, therefore, are precisely those customers who are least likely to be able to pay the unreasonably high default Budget Billing amounts that PGW seeks to demand.

Q. IS THERE A SECOND MODIFICATION THAT PGW SHOULD MAKE TO ITS BUDGET BILLING PROGRAM?

A. A second action that PGW should take is to ensure that customers entering into new Payment Arrangements (PARs) enter also into Budget Billing at the time they enter the PAR. Moreover, PGW should ensure that customers are not removed from Budget Billing upon completion of their PAR without an explicit request to be removed from Budget Billing. While PGW has previously reported that "virtually all" who enter into a

[26] The notion that low-income customers would be enrolled in CRP is not a persuasive counter-argument for two reasons. First, as I discuss elsewhere in this testimony, PGW enrolls a small (and declining) percentage of its Confirmed Low-Income customers in CRP. Second, one entire group of low-income customers that would not enroll in CRP are low use customers (whose bills would not be sufficiently high to result in CRP benefits). Nonetheless, these low use, low bill, low-income customers would be effectively excluded from an affordable Budget Billing plan.

PAR are required to enter into Budget Billing, the data does not support that assertion.[27] The data below shows the number of residential customers newly entering into a PAR for each month of 2015 along with the number of customers newly entering into Budget Billing by month for 2015. As can be seen, in every month but November and December, the number of new payment arrangements exceeded the number of customers newly entering into Budget Billing. For the year as a whole, there were nearly 56,000 more new payment arrangements than there were new entrants into Budget Billing. In April 2015, there were more than 13,300 more new PARs than there were new entrants into Budget Billing. In June 2015, there were more than 9,300 more new PARs than there were new entrants into Budget Billing.

	New PARs	New BB	Difference
Jan-15	2,755	2,304	(451)
Feb-15	4,794	1,637	(3,157)
Mar-15	6,693	1,064	(5,629)
Apr-15	13,884	583	(13,301)
May-15	9,046	472	(8,574)
Jun-15	9,996	689	(9,307)
Jul-15	7,298	1,689	(5,609)
Aug-15	6,025	1,190	(4,835)
Sep-15	5,305	1,833	(3,472)
Oct-15	4,912	2,521	(2,391)
Nov-15	1,851	2,429	578
Dec-15	1,633	1,835	202
Total	74,192	18,246	55,946

The data below might simply mean that customers who enter into PARs are already enrolled in Budget Billing and, accordingly, a new PAR would not also translate into a

[27] The data presented below is the information relied upon because, when OCA asked PGW to provide the number of customers who entered into Budget Billing with a pre-existing arrearage, rather than providing that data, PGW stated "Customers who enter PGW's Easy-Way Budget billing (sic) plan cannot have a pre-existing arrearage." No mention was made of customers entering into Budget Billing as a component of a PAR rather than limiting the response to less than all Budget Billing accounts.

new Budget Billing account. The data, however, does not support that conclusion. The lack of a relationship between PARs and Budget Billing can be seen in the total figures for both PARs and Budget Billing as well. The data below shows the data for 2015. If "virtually every" PAR also was billed on Budget Billing, in April through September, between roughly 60% and 75% of *all* Budget Billing customers were customers who were also on payment arrangements.[28]

	Total No. PARs	Total No. BB Accts	Difference	Pct PAR of BB
Jan-15	9,739	46,081	36,342	21%
Feb-15	12,064	45,478	33,414	27%
Mar-15	19,330	46,169	26,839	42%
Apr-15	25,148	44,436	19,288	57%
May-15	29,915	43,491	13,576	69%
Jun-15	30,967	42,559	11,592	73%
Jul-15	29,860	42,102	12,242	71%
Aug-15	27,562	41,876	14,314	66%
Sep-15	24,175	42,348	18,173	57%
Oct-15	19,791	43,618	23,827	45%
Nov-15	14,981	44,729	29,748	33%
Dec-15	10,785	44,978	34,193	24%

I conclude that people who enter into PARs simply do not also enter into Budget Billing. The data below shows the month-to-month change in the number of accounts on Budget Billing compared to the month-to-month change in the number of PARs. From January to February 2015, for example, the number of PARs increased by 2,325 while the number of Budget Billing accounts decreased by 603. From March to April 2015, the number of PARs increased by 5,818 while the number of Budget Billing accounts decreased by

[28] One cannot argue, either, that when the number of PARs increases, the number of customers otherwise on Budget Billing without also being on a PAR decreases. I previously presented the number of total exits from Budget Billing by month. The numbers do not support this assertion.

1,733. From April to May 2015, the number of PARs increased by 4,767 while the number of Budget Billing accounts decreased by 932.

	Payment Arrangements (PARs)		Budget Billing Accounts	
	Total No.	Month-to-Month Change	Total No.	Month-to-Month Change
Jan-15	9,739	xxx	46,081	xxx
Feb-15	12,064	2,325	45,478	-603
Mar-15	19,330	7,266	46,169	691
Apr-15	25,148	5,818	44,436	-1,733
May-15	29,915	4,767	43,491	-945
Jun-15	30,967	1,052	42,559	-932
Jul-15	29,860	-1,107	42,102	-457
Aug-15	27,562	-2,298	41,876	-226
Sep-15	24,175	-3,387	42,348	472
Oct-15	19,791	-4,384	43,618	1,270
Nov-15	14,981	-4,810	44,729	1,111
Dec-15	10,785	-4,196	44,978	249

Q. IS THERE A FINAL MODIFICATION YOU RECOMMEND FOR PGW'S BUDGET BILLING PROGRAM?

A. Yes. PGW should modify its practices to keep more Budget Billing customers on the system. As I discussed above, PGW loses a substantial number of Budget Billing customers each month. In 2015, 17,653 PGW customers exited the Budget Billing program, even though PGW only had an average monthly participation of 44,000 residential customers. While the Company tracks total Budget Billing exits, it cannot say how many customers are removed from Budget Billing by the Company and how many voluntarily exit the program.

We know, however, that in 2015, between 7% and 8% of all Budget Billing programs exited the program, roughly the same proportion as exited the program in July through

October. The percentage remained the same even though participation rates are higher in those months. This is indicative of the likelihood that Budget Billing participants leave due to end-of-year problems.

PGW should modify its year-end Budget Billing processes. First, if year-end balances are greater than $100 but less than $300, PGW should spread that balance over six months.[29] Underpayments of $300 or more should be spread out over a future period governed by the PUC's ability-to-pay guidelines.[30] PGW's current practice is to require balances less than $100 to be paid immediately; balances of from $100 to $300 are to be paid over six months; and balances over $300 may be spread over twelve months. (OCA-VIII-7). PGW claims that it does not track, and thus cannot provide, a distribution of customer under- or over-payments as of the end of a Budget Billing year. (OCA-VIII-6).

PGW says that it adjusts a Budget Billing amount "every three months to keep the payment in line with their actual gas usage." The data in Schedule RDC-4, however, shows a balance of $150 and a balance of $300, as a multiplier of the three-month rolling average monthly bill over the 24 months of January 2015 through December 2016. If the multiplier is 1.0, the amount by which PGW's estimated Budget Bill under-estimated actual consumption (and billing) is equal to one full month of billing. If the multiplier is 2.0, the amount by which the Budget Bill was under-estimated is equal to two of the three

[29] This time period is dictated by PUC regulation. 52 Pa. Code § 56.12(7).
[30] PGW has misconstrued and misapplied the PUC's regulation regarding underpayments of more than $300. The PUC regulation provides that "Reconciliation amounts exceeding $300 shall be amortized over *__at least__* a 12-month period at the request of the customer." (emphasis added). PUC has converted the "at least" language into a repayment period of always "equal to" twelve months. The PUC's regulation providing for "at least a 12-month period" clearly indicates that the repayment period should be twelve months *__or more__*.

months. A three-month rolling average was chosen because PGW states that it adjusts its Budget Billing amounts every three months to take into account the extent to which, if at all, the Budget Billing amount differs (up or down) from actual usage. The data shows that, to the extent that there is a $150 year-end under-payment, PGW would have under-estimated the Budget Billing amount by more than one full bill (out of a three month period) for heating customers in 21 of the 24 month study period. For non-heating customers, a $150 year-end underpayment would have under-estimated the Budget Billing amount by more than one full bill in all 24 months; by more than two full months (out of a three month period) in all 24 months; and by more than three full months (out of a three month period) in 22 months of the 24 month study period. Indeed, with a $150 underpayment for non-heating customers, PGW would have underestimated the Budget Billing amount by more than four full months (out of a three month period) in 15 months of the 24 month study period.

A $300 year-end underpayment presents an even more dire impact. For heating customers, a $300 underpayment means that PGW had under-estimated the heating bill by more than one full month (out of three) in all 24 months; by more than two full months (out of three) in 21 of the 24 months; and by more than three full months (out of three) in 15 months of the 24 month study period. A $300 year-end underpayment for non-heating customers results in even larger differences.

I conclude that PGW provides unreasonable amortization periods for Budget Billing year-end underpayments. The Company should adopt the amortization periods that I have set forth above.

Part 6. Credit and Collections.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I examine the PGW reports of residential customers who have $10,000 or more in arrears. I propose remedial responses.

PGW has reduced its arrears owed by accounts with arrears exceeding $10,000 from 2015 to 2016, the only two years for which the Company has reported such data. Both the number of accounts and the dollars of arrears decreased. In 2016 PGW had "only" 299 residential accounts with arrears greater than $10,000, compared to 345 such accounts in 2015. (OCA-V-20). Those accounts owed PGW $4,122,061 in arrears in 2016, compared to $4,930,934 in 2015. (OCA-V-20).

There should, however, be caution exercised in reviewing these numbers. The PGW data, for example, does not indicate the cause of the decrease. There is no basis to determine whether the decrease is because fewer households are remaining accounts, and they have lower arrears, or whether accounts with large arrears are having service terminated (voluntarily or involuntarily) and thus are being removed from the list. Moreover, since PGW has reported data for only two years, it is not possible to determine whether the decrease is part of a downward trend or whether it is simply a temporary decrease, part of a normal year-to-year variability.

Q. WHAT DID YOU FIND IN YOUR EXAMINATION OF PGW'S REPORTS OF RESIDENTIAL ACCOUNTS OWING $10,000 OR MORE?

A. I compared the 2016 list to the 2015 list to identify the accounts (n=131) accounts that were on the lists in both years. Within that population of 131 accounts, I can determine how many increased or decreased their arrears and by how much. Of the 131 duplicated accounts, 72 accounts (55%) reduced their arrears, while 59 accounts (45%) increased their arrears. Of the 72 accounts with reduced arrears, the arrears decreased by $176,252 (14%), from $1,255,241 to $1,078,988. In contrast, of the 59 accounts with increased arrears, the arrears increased by $74,121 (10%), from $761,073 to $835,193.

Schedule RDC-4 distributes the 131 accounts common to both the 2015 and 2016 lists of accounts with arrears equal to or exceeding $10,000 by the year-over-year change in arrears and by the 2016 average monthly bill. Both of those factors were divided into six ranges. Clearly, accounts with lower average monthly bills were more likely to have reduced their arrears from 2015 to 2016. Of the 72 accounts with average monthly bills of $150 or less in 2016, 55 (76.4%) reduced their arrearages, while only 17 (23.6%) increased their arrearages year-over-year. In contrast, of the 37 accounts with monthly bills exceeding $150, 20 (54.1%) increased their arrearage balance while 17 (45.9%) decreased their balances.[31]

Moreover, the lack of service terminations for nonpayment does not appear to have a substantive impact on whether or not an account experienced increases in arrears. Nearly 70% of the accounts having had zero nonpayment disconnections decreased their arrearages from 2015, while 57% of the accounts having had only one nonpayment disconnection reduced their arrearages. In contrast, of the 25 accounts with five or more nonpayment disconnects, 15 decreased their account balance while 10 increased their account balances. Overall, PGW engaged in more disconnections for nonpayment for each customer who increased their arrears (2.6/customer) than it did for each customer who decreased their arrears (2.4/customer).

Finally, I find that Company-provided payment arrangements ("PARS") did not play a substantive role in reducing account balances for customers owing $10,000 or more. Of the 131 accounts common to both the 2015 and 2015 lists, 92 (70.2%) had entered into no PAR through which to retire their arrears. Nonetheless, of those 92 accounts, 60 reduced their account balances while 32 increased their balances. In contrast, of the 34 accounts with from one (1) to four (4) PARS, 16 reduced their account balances while 18 increased their balances.

Q. WHAT DO YOU CONCLUDE?

[31] PGW reported that average monthly bills were not available for 22 of the 131 accounts common to both the 2015 and 2016 lists.

A. There is no question but that residential customers who owe PGW $10,000 or more in arrearages cost the utility, and other ratepayers, money. I conclude that those increased costs arise primarily in the cost of carrying the arrears rather than in the cost of engaging in collection activities. I further find that the primary factor that can be identified from the Company's annual reports on account balances exceeding $10,000 involves the level of the average monthly bill. To the extent that PGW can reduce monthly bills, the likelihood of increasing account balances decreases as well.

Q. WHAT DO YOU RECOMMEND?

A. From a credit and collection perspective, based on the reports the Company has filed for its first two years, PGW would be better served to devote efforts and resources to bill management than to service terminations for nonpayment. I recommend that PGW engage in a twelve month collaborative process with OCA, CAUSE-PA, TURN and other interested stakeholders to determine methods and mechanisms by which it: (1) will offer energy education specifically targeted to accounts with arrears exceeding $10,000; (2) engage in EE&C outreach and programming specifically targeted to accounts with arrears exceeding $10,000; and (3) engage in LIURP eligibility determinations, outreach, and programming specifically targeted to accounts with arrears exceeding $10,000.

Q. DOES PGW ENGAGE IN BASIC PRUDENT MANAGEMENT ACTIVITIES REGARDING THE TREATMENT OF ACCOUNTS IN ARREARS?

A. It is not possible to make some basic comparisons to undertake an examination of PGW's credit and collection activities. For example, PGW claims that it cannot provide a report of its accounts in arrears by dollar bands of how much is owed. (OCA-III-14; OCA-III-15). The cost-effectiveness of credit and collection activities depends on the level of arrears owed. What is appropriate for an account owing $2,000, in other words, may not be appropriate for an account owing $200. PGW, however, says that it simply does not know how many customers owe what levels of arrears.

In addition, PGW does not use its own customer research to help guide its credit and collection responses. In 2005, PGW prepared a "Customer Segmentation Analysis," which it provided to OCA in a prior proceeding.[32] In that study, PGW identified four distinctly different types of residential nonpayers: (1) Perpetually Challenged (inability to pay and often shutoff); (2) Chronically Delinquent (unwillingness to pay and often shutoff); (3) On-Time Payers (generally one time, occasionally late); and (4) Chronic Late Payers (often late, never shutoff). Tailoring strategies, and credit and collection events/timing to these segments, PGW found, would be expected to result in a reduction of $18 million in bad debt and $3 million in credit and collection expenses. The Company's own study recommended that it pursue "segmentation capabilities and financial tools." The Company's own study recommended that PGW develop a "customer behavioral survey" along with "segmentation requirements."

Despite this 2005 internal study, and the Company's own recommendations on what it can and should be doing as a result of that study's findings, when asked in this

[32] PGW (August 2005). Customers First: Customer Segmentation Analysis.

proceeding for recent segmentation work, PGW said it had none. (OCA-III-28).[33] Indeed, in this proceeding, PGW could not even provide its very own 2005 customer segmentation study. (OCA-III-28). The Company's own segmentation study heavily emphasized a reliance on Budget Billing, on increased enrollment in CRP, on increased LIHEAP enrollment, and on the enforcement of reasonable payment plans as targeted activities that vary based on the customer segments which PGW, itself, identified.

Q. WHAT DO YOU CONCLUDE?

A. The lack of PGW effort to work with, or to even remain aware of, its own customer research is one reason that the Company's performance lags in many of the respects I identify in this testimony. The Company's own inactions support my recommendations above regarding Budget Billing, the treatment of accounts with arrears exceeding $10,000, and the treatment of CRP default exits. In addition, I recommend that as part of any future claim for credit and collection expenses and/or uncollectible expenses, PGW should be required to include a demonstration of how it has applied its own customer segmentation study to reduce or minimize the need for these expenditures, how it differentiates credit and collection based on customer segmentation, and what the results of that application and differentiation have empirically been found to be.

[33] OCA asked for any segmentation report prepared since 2010, and if none existed since 2010, for the most recent segmentation report.

Part 7. Expanding the LIURP Budget.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I explain why it is reasonable for PGW to expand its LIURP funding. This increase in the LIURP budget should be equal to the same percentage bill increase to the residential class at median usage. If, for example, PGW's overall residential bills (at median usage) increase by 11.3% (see e.g., OCA-III-9), PGW's LIURP budget should be increased by 11.3% as well. The overall bill increase should be determined using total rates at the median residential consumption.

Q. PLEASE EXPLAIN THE NEXUS BETWEEN PGW'S PROPOSED RATE INCREASE AND AN INCREASE IN PGW'S LIURP BUDGET?

A. Pursuant to the PUC's LIURP regulations, usage reduction measures are appropriately installed if they meet prescribed payback periods. In fact, PGW has been allowed by the Commission to expand its cost-effectiveness test for LIURP to account for whole-house costs and benefits over the lifetime of the measures. In exercising this cost-effectiveness analysis, while a PGW rate increase would not increase the costs of delivering LIURP services, it would indeed increase the benefits of delivering such services. As a result, both the number of individual measures and the number of homes for which "some" measures are justified increases. Since a LIURP budget should be set to serve LIURP-eligible households over an established period of time, to increase the number of households in the population to be served, along with increasing the number of measures potentially justified to be installed for any given household, would be to slow down the rate toward which PGW will successfully serve all households needing LIURP services. As a result, PGW's rate increase, to the extent that it is granted, should be accompanied by a proportionate increase in the LIURP budget. Only in this fashion will PGW continue to move toward serving its LIURP population in a timely fashion.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

SCHEDULES ACCOMPANYING THE

DIRECT TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF
THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

Schedule RDC-1
(page 1 of 2)

PGW

	A	B	C	D	E	F	G	H
Month	Bill for Current Service	Payment Received	Late Payment Charge	Payment Applied to Unpaid Bill for Current Service	Payment Applied to Unpaid Late Charge	Cumulative Unpaid Bill for Current Service	Cumulative Unpaid Late Payment Charge	Cumulative Unpaid Balance
1-Jan	$ 350.00		$ -	$ -	$ -	$ 350.00	$ -	$ 350.00
1-Feb	$ 300.00		$ 4.38	$ -	$ -	$ 650.00	$ 4.38	$ 654.38
1-Mar	$ 200.00		$ 3.80	$ -	$ -	$ 850.00	$ 8.18	$ 858.18
1-Apr	$ 100.00		$ 2.60	$ -	$ -	$ 950.00	$ 10.78	$ 960.78
10-Apr		$ (50.00)	$ -	$ 39.22	$ 10.78	$ 910.78	$ -	$ 910.78
1-May	$ 60.00		$ 11.38	$ -	$ -	$ 970.78	$ 11.38	$ 982.17
10-May		$ (50.00)	$ -	$ 38.62	$ 11.38	$ 932.17	$ -	$ 932.17
1-Jun	$ 60.00		$ 11.65	$ -	$ -	$ 992.17	$ 11.65	$ 1,003.82
1-Jul	$ 60.00		$ 0.90	$ -	$ -	$ 1,052.17	$ 12.55	$ 1,064.71
1-Aug	$ 60.00		$ 0.91	$ -	$ -	$ 1,112.17	$ 13.45	$ 1,125.62
1-Sep	$ 60.00	$ (50.00)	$ -	$ 36.55	$ 13.45	$ 1,135.62	$ -	$ 1,135.62
10-Sep		$ (50.00)	$ -	$ 50.00	$ -	$ 1,085.62	$ -	$ 1,085.62
1-Oct	$ 75.00		$ 13.57	$ -	$ -	$ 1,160.62	$ 13.57	$ 1,174.19
10-Oct		$(200.00)	$ -	$ 186.43	$ 13.57	$ 974.19	$ -	$ 974.19
1-Nov	$ 75.00		$ 12.18	$ -	$ -	$ 1,049.19	$ 12.18	$ 1,061.37
10-Nov		$(150.00)	$ -	$ 137.82	$ 12.18	$ 911.37	$ -	$ 911.37
1-Dec	$ 200.00		$ 11.39	$ -	$ -	$ 1,111.37	$ 11.39	$ 1,122.76

Schedule RDC-1
(page 2 of 2)

PGW

	A	B	C	D	E	F	G
Month	Bill for Current Service	Payment Received	Account Balance Against which Late Payment Charge Levied	Percentage Late Payment Charge Levied	Dollar of Late Payment Charge Imposed	Cumulative Unpaid Balance for Current Service Owing	Cumulative Unpaid Late Payment Charge Owing
1-Jan	$ 350.00	$ -	$ -	1.25%	$ -	$ 350.00	$ -
1-Feb	$ 300.00	$ -	$ 350.00	1.25%	$ 4.38	$ 650.00	$ 4.38
1-Mar	$ 200.00	$ -	$ 654.38	1.25%	$ 3.80	$ 850.00	$ 8.18
1-Apr	$ 100.00	$ -	$ 853.80	1.25%	$ 2.60	$ 950.00	$ 10.78
10-Apr	$ -	$ (50.00)	$ -	1.25%	$ -	$ 910.78	$ -
1-May	$ 60.00	$ -	$ 910.78	1.25%	$ 11.38	$ 970.78	$ 11.38
10-May	$ -	$ (50.00)		1.25%	$ -	$ 932.17	$ -
1-Jun	$ 60.00	$ -	$ 932.17	1.25%	$ 11.65	$ 992.17	$ 11.65
1-Jul	$ 60.00	$ -	$ 1,003.82	1.25%	$ 0.90	$ 1,052.17	$ 12.55
1-Aug	$ 60.00	$ -	$ 1,064.71	1.25%	$ 0.91	$ 1,112.17	$ 13.45
1-Sep	$ 60.00	$ (50.00)	$ 1,125.62	1.25%	$ -	$ 1,135.62	$ -
10-Sep	$ -	$ (50.00)	$ 1,135.62	1.25%	$ -	$ 1,085.62	$ -
1-Oct	$ 75.00	$ -	$ 1,085.62	1.25%	$ 13.57	$ 1,160.62	$ 13.57
10-Oct	$ -	$(200.00)	$ 1,174.19	1.25%	$ -	$ 974.19	$ -
1-Nov	$ 75.00	$ -	$ 974.19	1.25%	$ 12.18	$ 1,049.19	$ 12.18
10-Nov	$ -	$(150.00)	$ 1,061.37	1.25%	$ -	$ 911.37	$ -
1-Dec	$ 200.00	$ -	$ 911.37	1.25%	$ 11.39	$ 1,111.37	$ 11.39

Schedule RDC-2

Dollars of Arrears by Aging Buckets (Budget Billing and Residential Customers as a Whole)

BB	31-60	61-90	91+	Sum	31-60	61-90	91+	Sum	Pct 30-60
Jan-15	841,008	76,270	167,528	1,084,806	78%	7%	15%	100%	85%
Feb-15	2,594,459	241,477	133,501	2,969,437	87%	8%	4%	100%	96%
Mar-15	5,066,134	919,051	185,832	6,171,017	82%	15%	3%	100%	97%
Apr-15	5,979,512	2,768,462	437,695	9,185,669	65%	30%	5%	100%	95%
May-15	4,069,013	3,871,065	1,382,884	9,322,962	44%	42%	15%	100%	85%
Jun-15	1,727,179	2,745,498	2,565,670	7,038,347	25%	39%	36%	100%	64%
Jul-15	838,021	1,184,637	2,605,988	4,628,646	18%	26%	56%	100%	44%
Aug-15	540,084	507,843	1,816,270	2,864,197	19%	18%	63%	100%	37%
Sep-15	340,126	282,213	1,016,513	1,638,852	21%	17%	62%	100%	38%
Oct-15	199,722	139,988	505,103	844,813	24%	17%	60%	100%	40%
Nov-15	117,415	50,437	261,109	428,961	27%	12%	61%	100%	39%
Dec-15	123,179	33,569	149,375	306,123	40%	11%	49%	100%	51%
Average				3,873,653	44%	20%			

Res (000)	31-60	61-90	91+	Sum	31-60	61-90	91+	Sum	Pct 30-60
Jan-15	24,338	11,387	108,409	144,134	17%	8%	75%	100%	25%
Feb-15	33,660	16,730	108,476	158,866	21%	11%	68%	100%	32%
Mar-15	39,082	22,591	111,308	172,981	23%	13%	64%	100%	36%
Apr-15	38,037	26,436	112,704	177,177	21%	15%	64%	100%	36%
May-15	31,213	28,887	121,113	181,213	17%	16%	67%	100%	33%
Jun-15	17,998	24,357	129,135	171,490	10%	14%	75%	100%	25%
Jul-15	14,475	14,567	133,787	162,829	9%	9%	82%	100%	18%
Aug-15	12,053	11,824	127,039	150,916	8%	8%	84%	100%	16%
Sep-15	11,167	9,755	120,007	140,929	8%	7%	85%	100%	15%
Oct-15	9,665	8,738	111,611	130,014	7%	7%	86%	100%	14%
Nov-15	12,850	8,983	118,327	140,160	9%	6%	84%	100%	16%
Dec-15	12,566	9,120	104,868	126,554	10%	7%	83%	100%	17%

PENGAD 800-631-6989
EXHIBIT
R-2017 2586783
OCA Schedule
RDC-2
6-28-17 EP PH

Schedule RDC-3

	Billings	Receipts	Rcpts as % of Billings
Mar-14	$114,439,320	$104,148,541	91.01%
Apr-14	$73,033,467	$93,590,051	128.15%
May-14	$42,234,359	$67,806,487	160.55%
Jun-14	$31,684,098	$48,757,166	153.89%
Jul-14	$28,035,785	$45,539,954	162.44%
Aug-14	$26,437,134	$37,036,582	140.09%
Sep-14	$27,156,704	$36,340,554	133.82%
Oct-14	$29,435,920	$41,542,799	141.13%
Nov-14	$51,029,680	$37,645,470	73.77%
Dec-14	$91,521,849	$54,975,644	60.07%
Jan-15	$114,680,685	$71,532,021	62.37%
Feb-15	$124,532,519	$87,625,799	70.36%
Mar-15	$106,010,248	$106,226,663	100.20%
Apr-15	$66,313,472	$92,055,389	138.82%
May-15	$37,534,443	$61,264,002	163.22%
Jun-15	$26,760,987	$45,907,533	171.55%
Jul-15	$23,706,170	$35,744,567	150.78%
Aug-15	$23,150,412	$30,072,225	129.90%
Sep-15	$22,248,278	$29,305,468	131.72%
Oct-15	$27,607,951	$36,216,980	131.18%
Nov-15	$41,896,375	$35,298,833	84.25%
Dec-15	$60,540,114	$44,365,336	73.28%
Jan-16	$88,141,934	$50,480,202	57.27%
Feb-16	$96,292,206	$72,274,976	75.06%
Mar-16	$79,928,151	$83,211,887	104.11%
Apr-16	$55,837,063	$66,390,930	118.90%
May-16	$36,527,533	$47,508,165	130.06%
Jun-16	$27,197,588	$42,194,441	155.14%
Jul-16	$22,819,392	$33,177,699	145.39%
Aug-16	$21,763,925	$31,119,444	142.99%
Sep-16	$22,952,297	$28,563,038	124.45%
Oct-16	$27,217,121	$30,628,940	112.54%
Nov-16	$45,050,662	$33,169,355	73.63%
Dec-16	$77,809,173	$46,777,938	60.12%
Jan-17	$108,662,276	$64,049,378	58.94%
Feb-17	$98,069,446	$78,063,647	79.60%
OCA-III-16			

Schedule RDC-4

Budget Billing Underpayments as Multiplier of 3-Month Rolling Average Bill

	Average Monthly Bill		3-Month Rolling Avg Bill		Multiplier at $150 Underpayment		Multiplier at $300 Underpayment	
	Heating	Non-Heating	Heating	Non-Heating	Heating	Non-Heating	Heating	Non-Heating
Jan-15	$184.93	$51.80	$137.70	$44.48	1.1	3.4	2.2	6.7
Feb-15	$202.33	$54.39	$178.49	$50.89	0.8	2.9	1.7	5.9
Mar-15	$173.27	$50.94	$186.84	$52.38	0.8	2.9	1.6	5.7
Apr-15	$107.31	$40.44	$160.97	$48.59	0.9	3.1	1.9	6.2
May-15	$59.29	$30.66	$113.29	$40.68	1.3	3.7	2.6	7.4
Jun-15	$41.56	$26.41	$69.39	$32.50	2.2	4.6	4.3	9.2
Jul-15	$37.45	$24.71	$46.10	$27.26	3.3	5.5	6.5	11.0
Aug-15	$35.98	$24.01	$38.33	$25.04	3.9	6.0	7.8	12.0
Sep-15	$35.40	$23.54	$36.28	$24.09	4.1	6.2	8.3	12.5
Oct-15	$42.07	$26.05	$37.82	$24.53	4.0	6.1	7.9	12.2
Nov-15	$65.77	$31.39	$47.75	$26.99	3.1	5.6	6.3	11.1
Dec-15	$97.69	$36.46	$68.51	$31.30	2.2	4.8	4.4	9.6
Jan-16	$144.86	$44.88	$102.77	$37.58	1.5	4.0	2.9	8.0
Feb-16	$157.29	$46.16	$133.28	$42.50	1.1	3.5	2.3	7.1
Mar-16	$129.16	$39.54	$143.77	$43.53	1.0	3.4	2.1	6.9
Apr-16	$89.98	$34.67	$125.48	$40.12	1.2	3.7	2.4	7.5
May-16	$57.97	$30.58	$92.37	$34.93	1.6	4.3	3.2	8.6
Jun-16	$41.66	$27.28	$63.20	$30.84	2.4	4.9	4.7	9.7
Jul-16	$35.05	$24.47	$44.89	$27.44	3.3	5.5	6.7	10.9
Aug-16	$33.19	$22.54	$36.63	$24.76	4.1	6.1	8.2	12.1
Sep-16	$34.51	$23.73	$34.25	$23.58	4.4	6.4	8.8	12.7
Oct-16	$39.50	$26.00	$35.73	$24.09	4.2	6.2	8.4	12.5
Nov-16	$68.56	$32.56	$47.52	$27.43	3.2	5.5	6.3	10.9
Dec-16	$125.27	$42.72	$77.78	$33.76	1.9	4.4	3.9	8.9

Schedule RDC-5

	2016 Bill Range							
Balance Change	$1 - $50	$51 - $100	$101-150	$151 - $200	$201 - $300	$301 or more	N/A	Total
($2501 or more)	5	7	10	2	1	---	---	25
($1,001 - $2,500)	6	6	7	4	3	---	2	28
($1 - $1,000)	1	6	7	3	3	1	5	26
$1 - $1000	---	6	5	2	3	2	7	25
$1,001 - $2,500	---	1	1	4	3	1	7	17
$2,501 or more	---	1	3	4	1	---	1	10
Total	12	27	33	19	14	4	22	131

OCA STATEMENT NO. 4 (Revised)

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

APPENDIX A TO THE

DIRECT TESTIMONY

OF

ROGER D. COLTON

ON BEHALF OF
THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

ROGER D. COLTON

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EDUCATION:

J.D. (Order of the Coif), University of Florida (1981)

M.A. (Economics), McGregor School, Antioch University (1993)

B.A. Iowa State University (1975) (journalism, political science, speech)

PROFESSIONAL EXPERIENCE:

Fisher, Sheehan and Colton, Public Finance and General Economics: 1985 - present.

As a co-founder of this economics consulting partnership, Colton provides services in a variety of areas, including: regulatory economics, poverty law and economics, public benefits, fair housing, community development, energy efficiency, utility law and economics (energy, telecommunications, water/sewer), government budgeting, and planning and zoning.

Colton has testified in state and federal courts in the United States and Canada, as well as before regulatory and legislative bodies in more than three dozen states. He is particularly noted for creative program design and implementation within tight budget constraints.

Commentator: Belmont Citizen-Herald: 2014 – present

Author of biweekly "Community Conversations" column for Belmont Citizen-Herald, weekly newspaper (June 2014 to present).

Host of biweekly "Community Conversations" podcast, Belmont Citizen-Herald, BMC Podcast Network (October 2016 to present)

National Consumer Law Center (NCLC): 1986 - 1994

As a staff attorney with NCLC, Colton worked on low-income energy and utility issues. He pioneered cost-justifications for low-income affordable energy rates, as well as developing models to quantify the non-energy benefits (*e.g.*, reduced credit and collection costs, reduced working capital) of low-income energy efficiency. He designed and implemented low-income affordable rate and fuel assistance programs across the country. Colton was charged with developing new practical and theoretical underpinnings for solutions to low-income energy problems.

Community Action Research Group (CARG): 1981 - 1985

As staff attorney for this non-profit research and consulting organization, Colton worked primarily on energy and utility issues. He provided legal representation to low-income persons on public utility issues; provided legal and technical assistance to consumer and labor organizations; and provided legal and technical assistance to a variety of state and local governments nationwide on natural gas, electric, and telecommunications issues. He routinely appeared as an expert witness before regulatory agencies and legislative committees regarding energy and telecommunications issues.

PROFESSIONAL AFFILIATIONS:

Columnist:	Belmont Citizen-Herald
Producer:	Belmont Media Center: BMC Podcast Network
Member:	Belmont Town Meeting
Chair:	Belmont Goes Solar
Coordinator:	BelmontBudget.org (Belmont's Community Budget Forum)
Coordinator:	Belmont Affordable Shelter Fund (BASF)
Chair:	Belmont Solar Initiative Oversight Committee
Member:	City of Detroit Blue Ribbon Panel on Water Affordability
Chair:	Belmont Energy Committee
Member:	Massachusetts Municipal Energy Group (Mass Municipal Association)
Past Chair:	Housing Work Group, Belmont (MA) Comprehensive Planning Process
Past Member:	Board of Directors, Belmont Housing Trust, Inc.
Past Chair:	Waverley Square Fire Station Re-use Study Committee (Belmont MA)
Past Member:	Belmont (MA) Energy and Facilities Work Group
Past Member:	Belmont (MA) Uplands Advisory Committee
Past Member:	Advisory Board: Fair Housing Center of Greater Boston.
Past Chair:	Fair Housing Committee, Town of Belmont (MA)
Past Member:	Aggregation Advisory Committee, New York State Energy Research and Development Authority.
Past Member:	Board of Directors, Vermont Energy Investment Corporation.
Past Member:	Board of Directors, National Fuel Funds Network
Past Member:	Board of Directors, Affordable Comfort, Inc. (ACI)
Past Member:	National Advisory Committee, U.S. Department of Health and Human Services, Administration for Children and Families, Performance Goals for Low-Income Home Energy Assistance.
Past Member:	Editorial Advisory Board, International Library, *Public Utility Law Anthology*.
Past Member:	ASHRAE Guidelines Committee, GPC-8, *Energy Cost Allocation of Comfort HVAC Systems for Multiple Occupancy Buildings*
Past Member:	National Advisory Committee, U.S. Department of Housing and Urban Development, Calculation of Utility Allowances for Public Housing.

Past Member: National Advisory Board: Energy Financing Alternatives for Subsidized Housing, New York State Energy Research and Development Authority.

PROFESSIONAL ASSOCIATIONS:

National Association of Housing and Redevelopment Officials (NAHRO)
National Society of Newspaper Columnists (NSNC)
Association for Enterprise Opportunity (AEO)
Iowa State Bar Association
Energy Bar Association
Association for Institutional Thought (AFIT)
Association for Evolutionary Economics (AEE)
Society for the Study of Social Problems (SSSO)
International Society for Policy Studies
Association for Social Economics

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Roger Colton (2009). ***The Earned Income Tax Credit (EITC) as "Energy Assistance" in Pennsylvania***, prepared for Pennsylvania Utility Law Project (PULP).

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COLTON EXPERIENCE AS EXPERT WITNESS

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I/M/O Columbia Gas of Pennsylvania	Office of Consumer Advocate	R-2016-2529660	Rate deisgn / customer service / Low-income program cost recovery	Pennsylvania	16
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I/M/O Energy Efficiency and Conservation Plan, Phase III, FirstEnergy Companies (Metropolitan Edison, Penelec, Penn Power, West Penn Power)	Office of Consumer Advocate	M-2015-2514767; M-2015-2514768; M-2015-2514769; M-2015-2514772	Multi-Family Energy Efficiency	Pennsylvania	16
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I/M/O PECO Energy Company	Office of Consumer Advocate	R-2015-2468981	Rate design / customer service	Pennsylvania	15
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Re. Philadelphia Gas Works	Office of Consumer Advocate	P-2010-2178610	Program design	Pennsylvania	11
Re. PPL	Office of Consumer Advocate	M-2010-2179796	Low-income program cost recovery	Pennsylvania	11
Re. Columbia Gas Company	Office of Consumer Advocate	R-2010-2215623	Rate design/Low-income program cost recovery	Pennsylvania	11
Crowder et al. v. Village of Kauffman	Crowder (plaintiffs)	3:09-CV-02181-M	Section 8 utility allowances	Texas Fed Court	11
I/M/O Peoples Natural Gas Company.	Office of Consumer Advocate	T-2010-220172	Low-income program design/cost recovery	Pennsylvania	11
I/M/O Commonwealth Edison	Office of Attorney General	10-0467	Rate design/revenue requirement	Illinois	10
I/M/O National Grid d/b/a Energy North	NH Legal Assistance	DG-10-017	Rate design/revenue requirement	New Hampshire	10
I/M/O Duquesne Light Company	Office of Consumer Advocate	R-2010-2179522	Low-income program cost recovery	Pennsylvania	10
I/M/O Avista Natural Gas Corporation	The Opportunity Council	UE-100467	Low-income assistance/rate design	Washington	10
I/M/O Manitoba Hydro	Resource Conservation Manitoba (RCM)	CASE NO. 17/10	Low-income program design	Manitoba	10
I/M/O TW Phillips	Office of Consumer Advocate	R-2010-2167797	Low-income program cost recovery	Pennsylvania	10
I/M/O PECO Energy—Gas Division	Office of Consumer Advocate	R-2010-2161592	Low-income program cost recovery	Pennsylvania	10
I/M/O PECO Energy—Electric Division	Office of Consumer Advocate	R-2010-2161575	Low-income program cost recovery	Pennsylvania	10
I/M/O PPL Energy	Office of Consumer Advocate	R-2010-2161694	Low-income program cost recovery	Pennsylvania	10
I/M/O Columbia Gas Company	Office of Consumer Advocate	R-2009-2149262	Low-income program design/cost recovery	Pennsylvania	10
I/M/O Atlantic City Electric Company	Office of Rate Council	R09080664	Customer service	New Jersey	10
I/M/O Philadelphia Gas Works	Office of Consumer Advocate	R-2009-2139884	Low-income program cost recovery	Pennsylvania	10
I/M/O Philadelphia Gas Works	Office of Consumer Advocates	R-2009-2097639	Low-income program design	Pennsylvania	10
I/M/O Xcel Energy Company	Xcel Energy Company (PSCo)	085-146G	Low-income program design	Colorado	09

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
I/M/O Atmos Energy Company	Atmos Energy Company	09AL-507G	Low-income program funding	Colorado	09
I/M/O New Hampshire CORE Energy Efficiency Programs	New Hampshire Legal Assistance	D-09-170	Low-income efficiency funding	New Hampshire	09
I/M/O Public Service Company of New Mexico (electric)	Community Action of New Mexico	08-00273-UT	Rate Design	New Mexico	09
I/M/O UGI Pennsylvania Natural Gas Company (PNG)	Office of Consumer Advocate	R-2008-2079675	Low-income program	Pennsylvania	09
I/M/O UGI Central Penn Gas Company (CPG)	Office of Consumer Advocate	R-2008-2079660	Low-income program	Pennsylvania	09
I/M/O PECO Electric (provider of last resort)	Office of Consumer Advocate	R-2008-2028394	Low-income program	Pennsylvania	08
I/M/O Equitable Gas Company	Office of Consumer Advocate	R-2008-2029325	Low-income program	Pennsylvania	08
I/M/O Columbia Gas Company	Office of Ohio Consumers' Counsel	08-072-GA-AIR	Rate design	Ohio	08
I/M/O Dominion East Ohio Gas Company	Office of Ohio Consumers' Counsel	07-829-GA-AIR	Rate design	Ohio	08
I/M/O Vectren Energy Delivery Company	Office of Ohio Consumers' Counsel	07-1080-GA-AIR	Rate design	Ohio	08
I/M/O Public Service Company of North Carolina	NC Department of Justice	G-5, SUB 495	Rate design	North Carolina	08
I/M/O Piedmont Natural Gas Company	NC Department of Justice	G-9, SUB 550	Rate design	North Carolina	08
I/M/O National Grid	New Hampshire Legal Assistance	DG-08-009	Low-income rate assistance	New Hampshire	08
I/M/O EmPower Maryland	Office of Peoples Counsel	PC-12	Low-income energy efficiency	Maryland	08
I/M/O Duke Energy Carolinas Save-a-Watt Program	NC Equal Justice Foundation	E-7, SUB 831	Low-income energy efficiency	North Carolina	08
I/M/O Zia Natural Gas Company	Community Action New Mexico	08-00036-UT	Low-income/low-use rate design	New Mexico	08
I/M/O Universal Service Fund Support for the Affordability of Local Rural Telecomm Service	Office of Consumer Advocate	I-0004010	Telecomm service affordability	Pennsylvania	08
I/M/O Philadelphia Water Department	Public Advocate	No Docket No.	Credit and Collections	Philadelphia	08
I/M/O Portland General Electric Company	Community Action--Oregon	UE-197	General rate case	Oregon	08
I/M/O Philadelphia Electric Company (electric)	Office of Consumer Advocate	M-00061945	Low-income program	Pennsylvania	08

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
I/M/O Philadelphia Electric Company (gas)	Office of Consumer Advocate	R-2008-2028394	Low-income program	Pennsylvania	08
I/M/O Columbia Gas Company	Office of Consumer Advocate	R-2008-2011621	Low-income program	Pennsylvania	08
I/M/O Public Service Company of New Mexico	Community Action New Mexico	08-00092-UT	Fuel adjustment clause	New Mexico	08
I/M/O Petition of Direct Energy for Low-Income Aggregation	Office of Peoples Counsel	CASE 9117	Low-income electricity aggregation	Maryland	07
I/M/O Office of Consumer Advocate et al. v. Verizon and Verizon North	Office of Consumer Advocate	C-20077197	Lifeline telecommunications rates	Pennsylvania	07
I/M/O Pennsylvania Power Company	Office of Consumer Advocate	P-00072437	Low-income program	Pennsylvania	07
I/M/O National Fuel Gas Distribution Corporation	Office of Consumer Advocate	M-00072019	Low-income program	Pennsylvania	07
I/M/O Public Service of New Mexico--Electric	Community Action New Mexico	07-00077-UT	Low-income programs	New Mexico	07
I/M/O Citizens Gas/NIPSCO/Vectren for Universal Service Program	Citizens Gas & Coke Utility/Northern Indiana Public Service/Vectren Energy	CASE 43077	Low-income program design	Indiana	07
I/M/O PPL Electric	Office of Consumer Advocate	R-00072155	Low-income program	Pennsylvania	07
I/M/O Section 15 Challenge to NSPI Rates	Energy Affordability Coalition	P-886	Discrimination in utility regulation	Nova Scotia	07
I/M/O Philadelphia Gas Works	Office of Consumer Advocate	R-00049157	Low-income and residential collections	Pennsylvania	07
I/M/O Equitable Gas Company	Office of Consumer Advocate	M-00061959	Low-income program	Pennsylvania	07
I/M/O Public Service Company of New Mexico	Community Action of New Mexico	Case No. 06-000210-UT	Late charges / winter moratorium / decoupling	New Mexico	06
I/M?O Verizon Massachusetts	ABCD	Case NO. DTE 06-26	Late charges	Massachusetts	06
I/M/O Section 11 Proceeding, Energy Restructuring	Office of Peoples Counsel	PC9074	Low-income needs and responses	Maryland	06
I/M/O Citizens Gas/NIPSCO/Vectren for Univ. Svc. Program	Citizens Gas & Coke Utility/Northern Indiana Public Service/Vectren Energy	Case No. 43077	Low-income program design	Indiana	06
I/M/O Public Service Co. of North Carolina	North Carolina Attorney General/Dept. of Justice	G-5, Sub 481	Low-income energy usage	North Carolina	06

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
I/M/O Electric Assistance Program	New Hampshire Legal Assistance	DE 06-079	Electric low-income program design	New Hampshire	06
I/M/O Verizon Petition for Alternative Regulation	New Hampshire Legal Assistance	DM-06-072	Basic local telephone service	New Hampshire	06
I/M/O Pennsylvania Electric Co/Metropolitan Edison Co.	Office of Consumer Advocate	N/A	Universal service cost recovery	Pennsylvania	06
I/M/O Duquesne Light Company	Office of Consumer Advocates	R-00061346	Universal service cost recovery	Pennsylvania	06
I/M/O Natural Gas DSM Planning	Low-Income Energy Network	EB-2006-0021	Low-income gas DSM program.	Ontario	06
I/M/O Union Gas Co.	Action Centre for Tenants Ontario (ACTO)	EB-2005-0520	Low-income program design	Ontario	06
I/M/O Public Service of New Mexico merchant plant	Community Action New Mexico	05-00275-UT	Low-income energy usage	New Mexico	06
I/M/O Customer Assistance Program design and cost recovery	Office of Consumer Advocate	M-00051923	Low-income program design	Pennsylvania	06
I/M/O NIPSCO Proposal to Extend Winter Warmth Program	Northern Indiana Public Service Company	Case 42927	Low-income energy program evaluation	Indiana	05
I/M/O Piedmont Natural Gas	North Carolina Attorney General/Dept. of Justice	G-9, Sub 499	Low-income energy usage	North Carolina	05
I/M/O PSEG merger with Exelon Corp.	Division of Ratepayer Advocate	EM05020106	Low-income issues	New Jersey	05
Re. Philadelphia Water Department	Public Advocate	No docket number	Water collection factors	Philadelphia	05
I/M/O statewide natural gas universal service program	New Hampshire Legal Assistance	N/A	Universal service	New Hampshire	05
I/M/O Sub-metering requirements for residential rental properties	Tenants Advocacy Centre of Ontario	EB-2005-0252	Sub-metering consumer protections	Ontario	05
I/M/O National Fuel Gas Distribution Corp.	Office of Consumer Advocate	R-00049656	Universal service	Pennsylvania	05
I/M/O Nova Scotia Power, Inc.	Dalhousie Legal Aid Service	NSUARB-P-881	Universal service	Nova Scotia	04
I/M/O Lifeline Telephone Service	National Ass'n State Consumer Advocates (NASUCA)	WC 03-109	Lifeline rate eligibility	FCC	04
Mackay v. Verizon North	Office of Consumer Advocate	C20042544	Lifeline rates—vertical services	Pennsylvania	04

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
I/M/O PECO Energy	Office of Consumer Advocate	N/A	Low-income rates	Pennsylvania	04
I/M/O Philadelphia Gas Works	Office of Consumer Advocate	P00042090	Credit and collections	Pennsylvania	04
I/M/O Citizens Gas & Coke/Vectren	Citizens Action Coalition of Indiana	Case 42590	Universal service	Indiana	04
I/M/O PPL Electric Corporation	Office of Consumer Advocate	R00049255	Universal service	Pennsylvania	04
I/M/O Consumers New Jersey Water Company	Division of Ratepayer Advocate	N/A	Low-income water rate	New Jersey	04
I/M/O Washington Gas Light Company	Office of Peoples Counsel	Case 8982	Low-income gas rate	Maryland	04
I/M/O National Fuel Gas	Office of Consumer Advocate	R-00038168	Low-income program design	Pennsylvania	03
I/M/O Washington Gas Light Company	Office of Peoples Counsel	Case 8959	Low-income gas rate	Maryland	03
Golden v. City of Columbus	Helen Golden	C2-01-710	ECOA disparate impacts	Ohio	02
Huegel v. City of Easton	Phyllis Huegel	00-CV-5077	Credit and collection	Pennsylvania	02
I/M/O Universal Service Fund	Public Utility Commission staff	N/A	Universal service funding	New Hampshire	02
I/M/O Philadelphia Gas Works	Office of Consumer Advocate	M-00021612	Universal service	Pennsylvania	02
I/M/O Washington Gas Light Company	Office of Peoples Counsel	Case 8920	Rate design	Maryland	02
I/M/O Consumers Illinois Water Company	Illinois Citizens Utility Board	02-155	Credit and collection	Illinois	02
I/M/O Public Service Electric & Gas Rates	Division of Ratepayer Advocate	GR01050328	Universal service	New Jersey	01
I/M/O Pennsylvania-American Water Company	Office of Consumer Advocate	R-00016339	Low-income rates and water conservation	Pennsylvania	01
I/M/O Louisville Gas & Electric Prepayment Meters	Kentucky Community Action Association	200-548	Low-income energy	Kentucky	01
I/M/O NICOR Budget Billing Plan Interest Charge	Cook County State's Attorney	01-0175	Rate Design	Illinois	01
I/M/O Rules Re. Payment Plans for High Natural Gas Prices	Cook County State's Attorney	01-0789	Budget Billing Plans	Illinois	01
I/M/O Philadelphia Water Department	Office of Public Advocate	No docket number	Credit and collections	Philadelphia	01

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
I/M/O Missouri Gas Energy	Office of Peoples Counsel	GR-2001-292	Low-income rate relief	Missouri	01
I/M/O Bell Atlantic--New Jersey Alternative Regulation	Division of Ratepayer Advocate	T001020095	Telecommunications universal service	New Jersey	01
I/M/O Entergy Merger	Low-Income Intervenors	2000-UA925	Consumer protections	Mississippi	01
I/M/O T.W. Phillips Gas and Oil Co.	Office of Consumer Advocate	R00994790	Ratemaking of universal service costs.	Pennsylvania	00
I/M/O Peoples Natural Gas Company	Office of Consumer Advocate	R-00994782	Ratemaking of universal service costs.	Pennsylvania	00
I/M/O UGI Gas Company	Office of Consumer Advocate	R-00994786	Ratemaking of universal service costs.	Pennsylvania	00
I/M/O PFG Gas Company	Office of Consumer Advocate	R00994788	Ratemaking of universal service costs.	Pennsylvania	00
Armstrong v. Gallia Metropolitan Housing Authority	Equal Justice Foundation	2:98-CV-373	Public housing utility allowances	Ohio	00
I/M/O Bell Atlantic--New Jersey Alternative Regulation	Division of Ratepayer Advocate	T099120934	Telecommunications universal service	New Jersey	00
I/M/O Universal Service Fund for Gas and Electric Utilities	Division of Ratepayer Advocate	EX00200091	Design and funding of low-income programs	New Jersey	00
I/M/O Consolidated Edison Merger with Northeast Utilities	Save Our Homes Organization	DE 00-009	Merger impacts on low-income	New Hampshire	00
I/M/O UtiliCorp Merger with St. Joseph Light & Power	Missouri Dept. of Natural Resources	EM2000-292	Merger impacts on low-income	Missouri	00
I/M/O UtiliCorp Merger with Empire District Electric	Missouri Dept. of Natural Resources	EM2000-369	Merger impacts on low-income	Missouri	00
I/M/O PacifiCorp	The Opportunity Council	UE-991832	Low-income energy affordability	Washington	00
I/M/O Public Service Co. of Colorado	Colorado Energy Assistance Foundation	99S-609G	Natural gas rate design	Colorado	00
I/M/O Avista Energy Corp.	Spokane Neighborhood Action Program	UE9911606	Low-income energy affordability	Washington	00
I/M/O TW Phillips Energy Co.	Office of Consumer Advocate	R-00994790	Universal service	Pennsylvania	00
I/M/O PECO Energy Company	Office of Consumer Advocate	R-00994787	Universal service	Pennsylvania	00
I/M/O National Fuel Gas Distribution Corp.	Office of Consumer Advocate	R-00994785	Universal service	Pennsylvania	00

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
I/M/O PFG Gas Company/Northern Penn Gas	Office of Consumer Advocate	R-00005277	Universal service	Pennsylvania	00
I/M/O UGI Energy Company	Office of Consumer Advocate	R-00994786	Universal service	Pennsylvania	00
Re. PSCO/NSP Merger	Colorado Energy Assistance Foundation	99A-377EG	Merger impacts on low-income	Colorado	99 - 00
I/M/O Peoples Gas Company	Office of Consumer Advocate	R-00994782	Universal service	Pennsylvania	99
I/M/O Columbia Gas Company	Office of Consumer Advocate	R-00994781	Universal service	Pennsylvania	99
I/M/O PG Energy Company	Office of Consumer Advocate	R-00994783	Universal service	Pennsylvania	99
I/M/O Equitable Gas Company	Office of Consumer Advocate	R-00994784	Universal service	Pennsylvania	99
Allerruzzo v. Klarchek	Barlow Allerruzzo	N/A	Mobile home fees and sales	Illinois	99
I/M/O Restructuring New Jersey's Natural Gas Industry	Division of Ratepayer Advocate	GO99030123	Universal service	New Jersey	99
I/M/O Bell Atlantic Local Competition	Public Utility Law Project	P-00991648	Lifeline telecommunications rates	Pennsylvania	99
I/M/O Merger Application for SBC and Ameritech Ohio	Edgemont Neighborhood Association	N/A	Merger impacts on low-income consumers	Ohio	98 - 99
Davis v. American General Finance	Thomas Davis	N/A	Damages in "loan flipping" case	Ohio	98 - 99
Griffin v. Associates Financial Service Corp.	Earlie Griffin	N/A	Damages in "loan flipping" case	Ohio	98 - 99
I/M/O Baltimore Gas and Electric Restructuring Plan	Maryland Office of Peoples Counsel	Case No. 8794	Consumer protection/basic generation service	Maryland	98 - 99
I/M/O Delmarva Power and Light Restructuring Plan	Maryland Office of Peoples Counsel	Case No. 8795	Consumer protection/basic generation service	Maryland	98 - 99
I/M/O Potomac Electric Power Co. Restructuring Plan	Maryland Office of Peoples Counsel	Case No. 8796	Consumer protection/basic generation service	Maryland	98 - 99
I/M/O Potomac Edison Restructuring Plan	Maryland Office of Peoples Counsel	Case No. 8797	Consumer protection/basic generation service	Maryland	98 - 99

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
VMHOA v. LaPierre	Vermont Mobile Home Owners Association	N/A	Mobile home tying	Vermont	98
Re. Restructuring Plan of Virginia Electric Power	VMH Energy Services, Inc.	PUE960296	Consumer protection/basic generation service	Virginia	98
Mackey v. Spring Lake Mobile Home Estates	Timothy Mackey	N/A	Mobile home fees	State ct: Illinois	98
Re. Restructuring Plan of Atlantic City Electric	New Jersey Division of Ratepayer Advocate	E097070457	Low-income issues	New Jersey	97-98
Re. Restructuring Plan of Jersey Central Power & Light	New Jersey Division of Ratepayer Advocate	E097070466	Low-income issues	New Jersey	97-98
Re. Restructuring Plan of Public Service Electric & Gas	New Jersey Division of Ratepayer Advocate	E097070463	Low-income issues	New Jersey	97-98
Re. Restructuring Plan of Rockland Electric	New Jersey Division of Ratepayer Advocate	E09707466	Low-income issues	New Jersey	97-98
Appleby v. Metropolitan Dade County Housing Agency	Legal Services of Greater Miami	N/A	HUD utility allowances	Fed. court: So. Florida	97 - 98
Re. Restructuring Plan of PECO Energy Company	Energy Coordinating Agency of Philadelphia	R-00973953	Universal service	Pennsylvania	97
Re. IES Industries Merger	Iowa Community Action Association	SPU-96-6	Low-income issues	Iowa	97
Re. New Hampshire Electric Restructuring	NH Comm. Action Ass'n	N/A	Wires charge	New Hampshire	97
Re. Merger of Atlantic City Electric and Connectiv	Division of Ratepayer Advocate	EM97020103	Low-income	New Jersey	97
Re. Connecticut Power and Light	City of Hartford	92-11-11	Low-income	Connecticut	97
Re. Comprehensive Review of RI Telecomm Industry	Consumer Intervenors	1997	Consumer protections	Rhode Island	97
Re. Natural Gas Competition in Wisconsin	Wisconsin Community Action Association	N/A	Universal service	Wisconsin	96
Re. Baltimore Gas and Electric Merger	Maryland Office of Peoples	CASE NO. 8725	Low-income issues	Maryland	96

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
	Counsel				
Re. Northern States Power Merger	Energy Cents Coalition	E-002/PA-95-500	Low-income issues	Minnesota	96
Re. Public Service Co. of Colorado Merger	Colorado Energy Assistance Foundation	N/A	Low-income issues	Colorado	96
Re. Massachusetts Restructuring Regulations	Fisher, Sheehan & Colton	DPU-96-100	Low-income issues/energy efficiency	Massachusetts	96
I/M/O PGW FY1996 Tariff Revisions	Philadelphia Public Advocate	No Docket No.	Credit and collection / customer service	Philadelphia	96
Re. FERC Merger Guidelines	National Coalition of Low-Income Groups	RM-96-6-000	Low-income interests in mergers	Washington D.C.	96
Re. Joseph Keliikuli III	Joseph Keliikuli III	N/A	Damages from lack of homestead	Honolulu	96
Re. Theresa Mahaulu	Theresa Mahaulu	N/A	Damages from lack of homestead	Honolulu	95
Re. Joseph Ching, Sr.	Re. Joseph Ching, Sr.	N/A	Damages from lack of homestead	Honolulu	95
Joseph Keaulana, Jr.	Joseph Keaulana, Jr.	N/A	Damages from lack of homestead	Honolulu	95
Re. Utility Allowances for Section 8 Housing	National Coalition of Low-Income Groups	N/A	Fair Market Rent Setting	Washington D.C.	95
Re. PGW Customer Service Tariff Revisions	Philadelphia Public Advocate	No Docket No.	Credit and collection	Philadelphia	95
Re. Customer Responsibility Program	Philadelphia Public Advocate	No Docket No.	Low-income rates	Philadelphia	95
Re. Houston Lighting and Power Co.	Gulf Coast Legal Services	12065	Low-Income Rates	Texas	95
I/M/O Petition to Stay PGW's Suspension of CRP customers who did Not Assign LIHEAP Grant to PGW	Philadelphia Public Advocate	No Docket No.	Low-Income rates	Philadelphia	95
Re. PGW Tariff Changes, Programs and Information Systems	Philadelphia Public Advocate	No Docket No.	Credit and collection	Philadelphia	95
Re. Request for Modification of Winter Moratorium	Philadelphia Public Advocate	No Docket No.	Credit and collection	Philadelphia	95
Re. Dept of Hawaii Homelands Trust Homestead Production	Native Hawaiian Legal Corporation	N/A	Prudence of trust management	Honolulu	94

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
Re. SNET Request for Modified Shutoff Procedures	Office of Consumer Counsel	94-06-73	Credit and collection	Connecticut	94
Re. Central Light and Power Co.	United Farm Workers	128280	Low-income rates/DSM	Texas	94
Blackwell v. Philadelphia Electric Co.	Gloria Blackwell	N/A	Role of shutoff regulations	Penn. courts	94
U.S. West Request for Waiver of Rules	Wash. Util. & Transp. Comm'n Staff	UT-930482	Telecommunications regulation	Washington	94
Re. U.S. West Request for Full Toll Denial	Colorado Office of Consumer Counsel	93A-6113	Telecommunications regulation	Colorado	94
Washington Gas Light Company	Community Family Life Services	Case 934	Low-income rates & energy efficiency	Washington D.C.	94
Clark v. Peterborough Electric Utility	Peterborough Community Legal Centre	6900/91	Discrimination of tenant deposits	Ontario, Canada	94
Dorsey v. Housing Auth. of Baltimore	Baltimore Legal Aide	N/A	Public housing utility allowances	Federal district court	93
Penn Bell Telephone Co.	Penn. Utility Law Project	P00930715	Low-income phone rates	Pennsylvania	93
Philadelphia Gas Works	Philadelphia Public Advocate	No Docket No.	Low-income rates	Philadelphia	93
Central Maine Power Co.	Maine Assn Ind. Neighborhoods	Docket No. 91-151-C	Low-income rates	Maine	92
New England Telephone Company	Mass Attorney General	92-100	Low-income phone rates	Massachusetts	92
Philadelphia Gas Works	Philadelphia Public Advocate	No Docket No.	Low-income DSM	Philadelphia	92
Philadelphia Water Dept.	Philadelphia Public Advocate	No Docket No.	Low-income rates	Philadelphia	92
Public Service Co. of Colorado	Land and Water Fund	91A-783EG	Low-income DSM	Colorado	92
Sierra Pacific Power Co.	Washoe Legal Services	N/A	Low-income DSM	Nevada	92
Consumers Power Co.	Michigan Legal Services	No Docket No.	Low-income rates	Michigan	92
Columbia Gas	Office of Consumer Advocate (OCA)	R9013873	Energy Assurance Program	Pennsylvania	91

CASE NAME	CLIENT NAME	Docket No. (if available)	TOPIC	JURIS.	YEAR
Mass. Elec. Co.	Mass Elec Co.	N/A	Percentage of Income Plan	Massachusetts	91
AT&T	TURN	90-07-5015	Inter-LATA competition	California	91
Generic Investigation into Uncollectibles	Office of Consumer Advocate	I-900002	Controlling uncollectibles	Pennsylvania	91
Union Heat Light & Power	Kentucky Legal Services (KLS)	90-041	Energy Assurance Program	Kentucky	90
Philadelphia Water	Philadelphia Public Advocate (PPA)	No Docket No.	Controlling accounts receivable	Philadelphia	90
Philadelphia Gas Works	PPA	No Docket No.	Controlling accounts receivable	Philadelphia	90
Mississippi Power Co.	Southeast Mississippi Legal Services Corp.	90-UN-0287	Formula ratemaking	Mississippi	90
West Kentucky Gas	KLS	90-013	Energy Assurance Program	Kentucky	90
Philadelphia Electric Co.	PPA	N/A	Low-income rate program	Philadelphia	90
Montana Power Co.	Montana Ass'n of Human Res. Council Directors	N/A	Low-income rate proposals	Montana	90
Columbia Gas Co.	Office of Consumer Advocate	R-891468	Energy Assurance Program	Pennsylvania	90
Philadelphia Gas Works	PPA	No Docket No.	Energy Assurance Program	Philadelphia	89
Southwestern Bell Telephone Co.	SEMLSC	NF-89749	Formula ratemaking	Mississippi	90
Generic Investigation into Low-income Programs	Vermont State Department of Public Service	Case No. 5308	Low-income rate proposals	Vermont	89
Generic Investigation into Dmnd Side Management Measures	Vermont DPS	N/A	Low-income conservation programs	Vermont	89
National Fuel Gas	Office of Consumer Advocate	N/A	Low-income fuel funds	Pennsylvania	89
Montana Power Co.	Human Resource Develop. Council District XI	N/A	Low-income conservation	Montana	88
Washington Water Power Co.	Idaho Legal Service Corp.	N/A	Rate base, rate design, cost-allocations	Idaho	88

OCA STATEMENT NO. 4 (Revised)

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

APPENDIX B TO THE

DIRECT TESTIMONY

OF

ROGER D. COLTON

ON BEHALF OF
THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

May 16, 2017

Peoples Natural Gas Company LLC

UNIVERSAL SERVICE
AND
ENERGY CONSERVATION PLAN

2015-2018

Amended 1/12/16 to reflect changes provided in the Final Order issued 12/17/15 at Docket M-2014-2432515

Peoples Natural Gas Company LLC
225 North Shore Drive
Pittsburgh, PA 15212

LIURP PILOT -- EMERGENCY FURNACE / SERVICE LINE REPAIR ASSISTANCE

Peoples Division

Program Description

The Peoples Division Emergency Furnace/House and Service Line Repair Program has been operational since June 2011. Since that time, the program has provided assistance to 239 customers.

Many low income customers are faced with the prospect of going through the winter months without heat because they cannot afford to have their furnace or service lines repaired and there are very few programs to provide assistance and support. While the Peoples/Equitable Division offers a similar program, funding is extremely limited and is expected to be exhausted within the next two years.

Through the LIURP Pilot, this program will be reported upon annually in conjunction with the annual LIURP report. Coordination of weatherization benefits through LIURP with participation in this program will be prioritized. Customers seeking assistance for heating and service related emergencies will be evaluated for LIURP participation. Minimum usage standards for LIURP participation may be waived for participants in order to provide access to weatherization services through this emergency program. Participation and cost details will be provided annually to BCS through an appendix to the LIURP report. Participants who are LIURP eligible and receive weatherization services initiated by their emergency heating need will be fully included in the LIURP report for the purposes of calculating savings.

Eligibility Criteria

Customers must be at or below 200% of the federal poverty level and have a need for emergency repairs to their heating system or house/service lines.

Needs Assessment

The Needs Assessment Provided in Attachment A includes a projection of the number of customers served by the Divisions with incomes at or below 200% of FPL. Based on historical data, an average of 140 customers per year receives either furnace or line repair services through this program. Because equipment and line failures cannot be predicted and funding for the program is capped at $400,000 annually, Peoples assumes the number of participants in this program will continue to be consistent with historical figures.

Projected Enrollment Levels

It is expected that this program will assist approximately 140 customers per year; or 560 customers over the next four years.

Program Budget

	Peoples Division
2015	$400,000
2016	$400,000
2017	$400,000
2018	$400,000

Organizational Structure

See Organizational Chart on page 5.

Outreach and Intake Efforts

Peoples will coordinate the emergency program with existing programs through Department of Community Economic Development ("DCED") and LIHEAP Crisis and will accept referrals from community based organizations, Company representatives and other third parties.

Identification of Low Income Customers

As this is an emergency assistance program, customers self-identify or are referred by local community service agencies or Company field personnel.

Program Integration

The program will be administered by Conservation Consultants, Inc. In order to realize efficiencies and better coordinate with other programs, the agency will utilize subcontractors who are currently working to implement the Peoples' LIURP program. Peoples requires that all contractors received appropriate clearances prior to participating in the Company's program.

Equitable Division

Program Description

The Equitable Division has a limited fund to support customers with heating appliance or line emergencies. Eligible customers can receive assistance of up to $750 for a line repair or $1,250 towards a furnace repair or replacement. The balance in the fund as of August 2015 is $103,000. Based on historical needs, we expect the fund to fully deplete in 2 to 3 years.

Many low income customers are faced with the prospect of going through the winter months without heat because they cannot afford to have their furnace or service lines repaired and there are very few programs to provide assistance and support.

Through the LIURP Pilot, this program will be reported upon annually in conjunction with the annual LIURP report. Coordination of weatherization benefits through LIURP with participation in this program will be prioritized. Customers seeking assistance for heating and service related emergencies will be evaluated for LIURP participation. Minimum usage standards for LIURP participation may be waived for participants in order to provide access to weatherization services through this emergency program. Participation and cost details will be provided annually to BCS through an appendix to the LIURP report. Participants who are LIURP eligible and receive weatherization services initiated by their emergency heating need will be fully included in the LIURP report for the purposes of calculating savings.

Eligibility Criteria

Customers must be at or below 200% of the federal poverty level and have a need for emergency repairs to their heating system or house/service lines.

Needs Assessment

The Needs Assessment Provided in Attachment A includes a projection of the number of customers served by the Divisions with incomes at or below 200% of FPL. Based on historical data, an average of 30 to 40 customers per year receive either furnace or line repair services through this program. Because equipment and line failures cannot be predicted and funding for the program is limited, Peoples assumes the number of participants in this program will continue to be consistent with historical figures.

Projected Enrollment Levels

It is expected that this program will assist approximately 30 to 40 customers per year; or 105 customers over the next three years.

Program Budget

	Equitable Division
2015	$35,000
2016	$35,000
2017	$33,000
2018	$---

Organizational Structure

See Organizational Chart on page 5.

Outreach and Intake Efforts

Peoples coordinates the emergency program with existing programs through Department of Community Economic Development ("DCED") and LIHEAP Crisis and will accept referrals from community based organizations, Company representatives and other third parties.

Identification of Low Income Customers

Customers will be identified through the receipt of LIHEAP, Dollar Energy Fund and other assistance programs.

Program Integration

The program is administered internally. In order to realize efficiencies and better coordinate with other programs, the Company attempts to use subcontractors who are currently working to implement the Peoples' LIURP program. Peoples requires that all contractors received appropriate clearances prior to participating in the Company's program.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Roger D. Colton, hereby state that the facts above set forth in my Direct Testimony, OCA Statement No. 4 (Revised), are true and correct and that I expect 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).

Signature: ______________________
Roger D. Colton

Consultant Address: Fisher, Sheehan, and Colton
34 Warwick Road
Belmont, Ma 02478

DATED: June 2, 2017
234129.docx

OCA Statement No. 4R

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

REBUTTAL TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

June 9, 2017

Table of Contents

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Roger Colton. My business address is 34 Warwick Road, Belmont, MA 02478.

Q. ARE YOU THE SAME ROGER COLTON WHO PREVIOUSLY PREPARED PREFILED WRITTEN DIRECT TESTIMONY ON BEHALF OF THE OFFICE OF CONSUMER ADVOCATE?

A. Yes.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. The purpose of my Rebuttal Testimony is as follows.

- First, I respond to the Direct Testimony of TURN witness Harry Geller as he discusses the appropriate affordable burden to be established for the Customer Responsibility Program ("CRP") of Philadelphia Gas Works ("PGW" or "Company");
- Second, I respond to the Direct Testimony of OSBA witness Robert Knecht as he discusses the appropriate cost allocation for PGW's Universal Services programs.

Q. PLEASE BRIEFLY SUMMARIZE THE RECOMMENDATIONS PRESENTED IN YOUR REBUTTAL TESTIMONY.

A. The data and discussion throughout my Rebuttal Testimony below supports the following recommendations:

- I recommend that the issue of what burden should be used to define what is "affordable" for PGW be deferred to the pending Commission proceeding regarding "Energy Affordability for Low-Income Consumers" (Docket No. M-2017-2587711).

- The recommendations of Mr. Knecht regarding a modification of PGW's universal service cost recovery should be rejected.

Part 1. Response to TURN Witness Harry Geller.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the Direct Testimony of TURN witness Harry Geller regarding the appropriate burden to be used to define "affordability" within PGW's CRP. The term "energy burden" is a term-of-art. It refers to a customer's bill as a percentage of income. For example, a customer with a natural gas bill of $1,500 and an annual income of $6,000 has a natural gas "energy burden" of 25% ($1,500 / $6,000 = 0.25).

Q. HAS THE COMMISSION ESTABLISHED GUIDELINES FOR WHAT ENERGY BURDENS ARE "AFFORDABLE" FOR PURPOSES OF A UTILITY'S CUSTOMER ASSISTANCE PROGRAM?

A. Yes. PGW's CRP is the Company's Customer Assistance Program ("CAP"). The Commission has established affordability guidelines in 52 Pa. Code § 69.265. The Commission has determined that different burdens apply to households at different levels of the Federal Poverty Level.[1] PGW's CRP burdens, as compared to the PUC's affordability guidelines, are as follows:

FPL	PGW's CRP Burdens	PUC Guidelines (52 Pa. Code § 69.265) /a/
0 – 50% FPL	8%	5% - 8%
51 – 100% FPL	9%	7% - 10%
101 – 150% FPL	10%	9% - 10%
/a/ Natural gas heating.		

As Mr. Geller notes in his testimony, PGW's CRP burdens are at the "top" of the PUC's affordability ranges for households with income at 0 – 50% of FPL and at 101 – 150% of FPL. PGW's CRP burden is somewhat above the middle of the range for households with income at 51 – 100% of FPL.

The Commission currently has pending a proceeding to comprehensively consider the affordability of burdens within the context of CAP programs (Docket No. M-2017-2587711). In the Order initiating that proceeding, the Commission specifically stated that "Under the Commission's CAP Policy Statement, if a consumer's energy burden falls within the above ranges, it is considered an affordable energy burden for a low-income household." However, the explicit purpose of the Commission's investigation is to review whether the burdens presently included in its Policy Statement are, in fact, affordable.

[1] The Federal Poverty Level "FPL") is published annually by the U.S. Department of Health and Human Services ("HHS"). Poverty Level is a measure of low-income status by household size. In 2017, 100% of FPL for a 1-person household is $12,060; for a 2-person household is $16,240; for a 3-person household is $20,420; for a 4-person household is $24,600. Each additional household member would increase the FPL by $4,180.

Q. IS THERE ANY DIFFERENCE BETWEEN HOW PGW CALCULATES ITS CRP BILL AND HOW OTHER PENNSYLVANIA UTILITIES CALCULATE THEIR CAP BILLS?

A. Yes. In response to a decision by the federal LIHEAP office that LIHEAP benefits are to be applied exclusively to a CAP participant's asked-to-pay amount, most other Pennsylvania utilities operating a percentage of income program have adopted what is called a "CAP-Plus" program to address this decision.

Q. DOES PGW OPERATE A CAP-PLUS PROGRAM?

A. No. PGW does not operate a CAP-Plus program. Moreover, OCA did not propose a CAP-Plus program in this proceeding. In its Order initiating the comprehensive review of affordability, the PUC stated that:

> the necessary first step to evaluate the affordability, cost-effectiveness, and prudence of Universal Service Programs is to undertake an energy affordability study. In undertaking any subsequent review of Universal Service Programs in their entirety, we must, of course, continue to balance the costs and benefits of these programs as potential changes to affordability standards will inevitably require an examination of overall program funding.

Docket M-2017-2587711, Opinion and Order, at 4 (May 5, 2017). The Commission then ordered "the Commission's Bureau of Consumer Services, in conjunction with other necessary Commission Bureaus, [to] initiate a study regarding home energy burdens in Pennsylvania, resulting in recommendations concerning affordable home energy burdens for low-income Pennsylvanians." (Opinion and Order, at 5).

Q. HAVE YOU HAD OCCASION TO REVIEW THE PERCENTAGE OF INCOME BURDENS DEEMED TO BE "AFFORDABLE" IN OTHER LOW-INCOME BILL AFFORDABILITY PROGRAMS AROUND THE NATION?

A. Yes. In January 2017, I prepared a matrix of the burdens deemed to be affordable in various bill affordability programs around the nation. My work for the past 30+ years has involved working through the United States and Canada in helping states (and utilities) to design appropriate programs. I have attached my program matrix as Schedule RDC-1R.

Q. WHAT DO YOU CONCLUDE FROM THIS MATRIX?

A. I conclude that setting an affordable burden for a utility's bill affordability program is an extraordinarily complex task. I conclude further that there are many factors that go into a determination of an appropriate energy burden for a percentage of income plan for low-income utility customers.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the question of what is the appropriate percentage of income burden to be charged to low-income participants in PGW's CRP be deferred to the Commission's comprehensive review of bill affordability. It would be inefficient, at best, to attempt to establish an affordable burden in this proceeding only then to potentially need to revisit the issue when the Commission's comprehensive review is completed.

Part 2. Response to OSBA Witness Robert Knecht.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR REBUTTAL TESTIMONY.

A. In this section of my Rebuttal Testimony, I respond to the testimony of OSBA witness Robert Knecht regarding the allocation of PGW's universal service costs. Mr. Knecht recommends that PGW's current allocation of universal service costs to customer classes in addition to residential customers should be disapproved. I recommend that Mr. Knecht's proposal be rejected.

A. Prior PUC Orders Regarding PGW Universal Service Cost Allocation.

Q. PLEASE RESPOND TO MR. KNECHT'S REVIEW OF PRIOR COMMISSION DECISIONS REGARDING THE APPROPRIATE ALLOCATION OF UNIVERSAL SERVICE COSTS AMONG CUSTOMER CLASSES.

A. Mr. Knecht's review of prior decisions is inappropriate here. The Pennsylvania PUC has continued 25 years of allocating universal service costs to all PGW customer classes for good reasons as described below. There is no reason to change those decisions in this proceeding.[2]

B. PGW's Status as a Municipal Utility.

Q. HAVE PGW'S UNIVERSAL SERVICE COSTS HISTORICALLY BEEN ALLOCATED TO ALL CUSTOMER CLASSES?

[2] The Commission identified "cost recovery" as an issue it will consider in its pending comprehensive review of universal service policies in its pending Docket No. M-2017-2596907.

A. Yes. PGW's universal service costs have been allocated among all customer classes since the CRP program was first created in 1993.[3] Even since the regulation of PGW was transferred to the PUC, the PUC has maintained this cost allocation policy for PGW through an interim base rate proceeding,[4] two emergency rate proceedings,[5] three full base rate cases,[6] and the PGW restructuring proceeding.[7] The last time this cost allocation decision was raised (in PGW's 2010 base rate case), the case was resolved by settlement.

Q. AS A MUNICIPAL UTILITY, WOULD IT BE PARTICULARLY INEQUITABLE FOR PGW TO CHANGE THE COST ALLOCATION SO THAT UNIVERSAL SERVICE CHARGES ARE ALLOCATED ONLY TO THE RESIDENTIAL CUSTOMER CLASS?

A. Yes. To allocate all universal service costs exclusively to the residential customer class today would further operate to remake the bargain that the City of Philadelphia has made with its natural gas utility customers. The offer of programs in support of universal service for all customers is a *quid pro quo* that was exacted in exchange for substantial --and continuing-- public perquisites provided to the natural gas utility.[8] So long as all customer

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[3] Recommended Decision in the Matter of Proposed Changes to PGW's Customer Service Regulations (Sept. 22, 1993), affirmed, Order and Resolution of the Philadelphia Gas Commission (November 9, 1993).
[4] Pa. PUC v. Philadelphia Gas Works, Docket No. R-00005654 (Order Entered February 21, 2001).
[5] Petition of Philadelphia Gas Works for Extraordinary Rate Relief Pursuant to 66 Pa. C.S. § 1308(e), Docket No. R-00017034 (Emergency Order Entered April 12, 2002); Pa. PUC v. Philadelphia Gas Works - Petition for Emergency Rate Relief, Docket No. R-2008-2073938 (Order Entered December 19, 2008).
[6] Pa. PUC v. Philadelphia Gas Works, Docket No. R-00006042 (Order Entered October 4, 2001); Pa. PUC v. Philadelphia Gas Works, Docket No. R-00017034 (Order Entered August 8, 2002); Pa. PUC v. Philadelphia Gas Works, Docket No. R-00061931 (Order Entered September 28, 2007).
[7] Pa. PUC v. Philadelphia Gas Works, Docket No. M-00021612 (Order Entered April 17, 2003).
[8] The Texas courts, for example, have recognized this exchange. A public utility, Texas statutes say, includes owning or operating or managing a pipeline "if any part of the right of way for said line has been acquired, or is hereafter acquired, by the exercise of the right of eminent domain." The court held: "If a corporation, acting within its corporate powers, acquires land for a pipeline to be owned by it for the transport of natural gas, through an exercise of the power of eminent domain (set forth) in (Texas statutes), it thereby submits to the regulatory

classes enjoy the fruits of that exchange, they should also contribute to paying for the obligations that were bargained for as part of the exchange.

As a municipal utility, PGW was granted two sets of public perquisites on behalf of all of its customers: (1) the right to exercise eminent domain, and (2) the right to use the public's streets, alleys and public ways as transportation corridors. The bargain that was made in consideration of these two public perquisites is continuing. In accepting and exercising the power of eminent domain, and the right to use public streets and ways, an exchange has occurred. PGW's customers have received the two perquisites and, as compensation for those benefits, have agreed to "pay" through the support of universal service.

In the health care industry, the same exchange of public perquisites for universal service has been made. The concept of tax exemption as an exchange originated in the common law of charitable trusts and is frequently restated in contemporary court decisions considering charitable hospitals' exemption from various taxes. The cases do not indicate that charitable exemptions turn on an exact accounting of the costs of public services provided in comparison with tax revenues foregone. Exemption has not, at least historically, been conceived as a negotiated transaction between the tax authorities and

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provisions (of statute) so that its ownership of the pipeline, under regulation, is a "public use" by legislative declaration."

The court concluded: "In the present case, it is undisputed that (the natural gas company) was acting within its corporate powers under a resolution of its board of directors, that the easement across Loesch's land was necessary for the public interest and that it relies upon the power of eminent domain given in article 1436. In acquiring the easement under authority of that statute, (the natural gas company) submits to regulation by the State of Texas and thereby becomes charged with numerous statutory duties to the public." Loesch v. Oasis Pipeline Company, 665 S.W.2d 595, 598 - 599 (Tx. App. 1984). See also, Colton (1997). "The 'Obligation to Serve' and a Competitive Electric Industry, prepared for U.S. Department of Energy, Office of Economic, Electricity and Natural Gas Analysis, Oak Ridge National Laboratory, Report No. ORNL/Con-459 (documenting analogy of non-profit hospitals who, in exchange for public perquisites, bear the burden of providing indigent care).

the exempt organization. The task of such an accounting would be beyond the institutional capacities of the courts. Instead, the exchange concept appears to function as one of the underlying assumptions that lead (*sic*) a legislature to grant exempt status to a class of organizations."[9]

Q. HOW DOES THIS RELATE TO THE ALLOCATION OF PGW'S UNIVERSAL SERVICE COSTS?

A. This discussion supports the conclusion that all customer classes should help fund universal service programs. The public perquisites that have been provided to all PGW customers have a substantial value. If PGW could *not* use eminent domain, in other words, or if it could not use the streets and public ways as transportation corridors for its lines or pipelines, the increased costs associated with acquiring its distribution system would be borne by all ratepayers. Providing PGW's customers these public perquisites, therefore, conveys substantial financial benefits to all customers.

Having received the financial benefits of the bargain, all PGW customers should thus pay the financial compensation to the public for having provided those benefits in the first place. With all end users having taken their share of the benefits of the bargain, all end users should also be required to pay their fair share of the responsibility part of the bargain. To allow otherwise would be to grant the benefit while forgiving the costs.

[9] James Simpson and Sarah Strum, "How Good a Samaritan? Federal Income Tax Exemption for Charitable Hospitals Reconsidered," 14 U. Puget Sound L. Rev. 633 (1991); see also, Barry Furrow, "Forcing Rescue: The Landscape of Health Care Provider Obligations to Treat Patients," 3 Health Matrix 31 (1993). The connection between the obligation to serve the indigent and the grant of federal, state and local tax subsidies is not merely implicit. When subsidies were challenged in court, judicial decisions: "were reached in the context of reviewing the validity of charitable trusts for hospital purposes, or the entitlement of charitable hospitals to exemption from various state and local taxes. The decisions rejected the idea that charity demanded exclusive attention to the indigent, but made the accessibility of the hospital to all without regard to ability to pay an important consideration." How Good a Samaritan, supra, at 642.

Q. HAS THE CITY OF PHILADELPHIA RECENTLY RECOGNIZED THE BENEFITS TO THE CITY AS A WHOLE, INCLUDING COMMERCIAL CUSTOMERS, ARISING FROM A BILL AFFORDABILITY PROGRAM?

A. Yes. The PUC noted in its 2014 Universal Service Plan Order regarding PGW's universal service programs that PGW differs from other Pennsylvania natural gas utilities in that PGW does not have stockholders. Instead, PGW is owned and operated by the City of Philadelphia.

The City of Philadelphia also owns its own water distribution system, the Philadelphia Water Department. On November 19, 2015, the Philadelphia City Council unanimously adopted a percentage of income bill affordability program for the Philadelphia Water Department (Philadelphia City Council Bill 140607-AA). That program, called IWRAP (Income-based Water Rate Affordability Program), was modeled on the percentage of income program operated by PGW, the City's municipally-owned gas system. The City Council legislation provided that:

> Monthly IWRAP bills shall be affordable for low-income households, based on a percentage of the household's income and a schedule of different percentage rates for (i) households with income up to fifty percent (50%) of FPL, (ii) households with income from fifty percent (50%) to (100%) of FPL, and (iii) households with income from one hundred percent (100%) to one hundred fifty percent (150%) of FPL, and shall be charged in lieu of the Department's service, usage, and stormwater charges.

Even more importantly for purposes here, however, is that, because the purpose of the program was not simply to provide benefits to low-income customers, but to provide benefits to the entire City, including commercial establishments throughout the City, the costs of the Philadelphia Water Department bill affordability program were spread over all customer classes. The PGW universal service programs serve the same municipal functions, and provide the same benefits to all entities in the City, as does the recently-adopted affordability program for PGW's sister municipally-owned utility. To recognize those widespread benefits accruing to all customers, including commercial customers, would not involve a change in PUC policy. It would instead simply *continue* the same policy that has been in effect for more than two decades, since PGW's program was first begun. It would, in other words, continue the same policy, last recognized by the PUC in PGW's 2014 universal service decision, that as a municipal utility, PGW is different from other natural gas distribution companies when it comes to the allocation of universal service costs.

C. Program Eligibility.

Q. PLEASE RESPOND TO MR. KNECHT'S ARGUMENT THAT NON-RESIDENTIAL CUSTOMERS SHOULD NOT PAY FOR A SERVICE THAT THEY ARE NOT "ELIGIBLE TO PARTICIPATE IN".

A. Mr. Knecht argues that it is not reasonable to recover the costs of these programs from non-residential customers because non-residential customers are not eligible to participate in these programs.

Q. IS THERE ANY CONCEPTUAL FLAW IN THE ARGUMENT THAT UNIVERSAL SERVICE COSTS SHOULD BE ALLOCATED TO RESIDENTIAL

CUSTOMERS BECAUSE ONLY RESIDENTIAL CUSTOMERS CAN PARTICIPATE?

A. Yes. The assertion that all universal service costs should be assigned to residential customers because only residential customers (that is low-income customers) benefit from the program proves too much (even accepting solely for purposes of analysis the premise that only low-income customers benefit). If we assume that only low-income customers benefit, and we follow the rule that costs in this case should be allocated only to those who directly benefit, we are brought to the conclusion that universal service costs should be directly assigned pro rata to customers who participate in the universal service programs (such as CRP). Clearly this would be an absurd result. In addition, there is no more reason to allocate costs to non-low-income residential customers under this reasoning than there is to allocate them to non-residential customers. Non-low-income residential customers benefit, as they do, exactly and only in the ways and to the extent that non-residential customers benefit.

Q. IS MR. KNECHT CORRECT THAT SMALL BUSINESSES ARE NOT ELIGIBLE FOR ANY OF PGW'S UNIVERSAL SERVICE BENEFITS?

A. No. The Commission has extended some energy efficiency programming to small businesses, to be paid for through PGW's universal service surcharge. The Commission approved PGW's Low-Income Multifamily ("LIME") program directed toward buildings that are commercial accounts. (Docket No. P-2014-2459362, Tentative Order and Opinion, at 94 – 102, August 4, 2016; Final Opinion and Order, at 33, November 1, 2016).

This decision is relevant to Mr. Knecht's testimony because the Commission, at least in part, specifically predicated its approval of funding PGW's multi-family LIME program through the universal service charge on the fact that commercial accounts, in part, pay for PGW's LIURP program. According to the Commission's Final Order in Docket No. M-2013-2366301 (August 22, 2014):

> The Commission has recognized that low-income multifamily housing is often underserved and is excluded from traditional LIURP program eligibility if it is master-metered and classified as commercial. . .PGW is in the unique position of recovering funding for the ELIRP program,[10] in part, through non-residential ratepayers. . .Currently, twenty percent (20%) of PGW's ELIRP funding comes from the commercial sector. . .The Commission agrees with the parties who raised the issue that PGW has not addressed the low-income multifamily housing stock in its ELIRP program design. Accordingly, we direct PGW. . .to develop a program and designate a portion of the ELIRP budget to specifically serve low-income multifamily properties. The Commission. . .notes that commercial ratepayers, which include many multifamily account, have been supporting ELIRP and other PGW weatherization programs for years without receiving any direct benefits.

(Final Order, at 57).

Q. DID THE COMMISSION CRITICIZE PGW FOR FUNDING ITS UNIVERSAL SERVICE PROGRAMS, IN PART, THROUGH NON-RESIDENTIAL CUSTOMERS?

A. No. In its 2014 PGW Order,[11] the Commission explained the difference, noting that "PGW, as a [City Natural Gas Distribution Company], recovers universal service

[10] ELIRP is PGW's LIURP program.

[11] Philadelphia Gas Works Universal Service and Energy Conservation Plan for 2014 – 2016, Submitted in Compliance with 52 Pa. Code § 62.4, Docket No. M-2013-2366301, August 22, 2014.

program costs differently from [Natural Gas Distribution Companies], because PGW has no stockholders." (Final Order, at note 14, page 57).

Q. WHAT DO YOU CONCLUDE?

A. The issue of how universal service program costs are allocated among customer classes for PGW is somewhat more complicated than Mr. Knecht proposes. In fact, the Commission has used the fact that all customer classes pay for PGW's universal service programs to include cost recovery for some non-residential energy efficiency programming in the universal service charge. It would be unfair and unreasonable, with the Commission having just recently extended the universal service charge to include some commercial programs, to now turn around and allocate the universal service costs exclusively to residential customers. It would also be unreasonable to ignore the fact that the Commission explained that there was a reason for its treatment of PGW universal service program cost recovery differently from other natural gas distribution companies.

Q. IS MR. KNECHT'S ARGUMENT ABOUT PROGRAM ELIGIBILITY AT ODDS WITH OTHER ELEMENTS OF BASIC UTILITY RATEMAKING?

A. Yes. This argument ignores traditional utility ratemaking treatment for "public goods." One well-accepted tenet of utility ratemaking is that certain expenses incurred by a public utility are for "public goods." Due to the nature of public goods, all customers receive benefits from public goods and, accordingly, the costs of such goods are spread over all customer classes. Each end user makes a financial contribution to the utility's delivery of public goods. The "public goods" doctrine is applied in a variety of settings as a justification to spread designated utility costs over all customer classes. The basic telecommunications network, for example, has been found to be a "public good" as a justification for spreading network costs over all customer classes.

Q. DO NON-RESIDENTIAL CUSTOMERS DERIVE BENEFITS FROM THESE PUBLIC GOODS EVEN THOUGH THEY ARE NOT INDIVIDUAL PERSONS?

A. Yes. A product can represent a "public good" even though the direct service is provided to an individual. For example, businesses do not go to school, individuals do. Businesses do not go to doctors, individuals do. Businesses do not place their children in day care, individuals do. Despite this, the direct benefits to business from the affordable provision of each of these "public goods" have been documented. Affordable health care and child care are all akin to affordable home energy in their nature as public goods which provide direct and substantial benefits to businesses as well as individuals. Accordingly, businesses, as well as individuals, should be responsible for helping to pay for these public goods.

Q. HOW DO YOU DEFINE A "PUBLIC GOOD"?

A. The Pennsylvania PUC should adopt the definition of "public good" articulated by the National Regulatory Research Institute (NRRI) (formerly at Ohio State University). NRRI stated:

> A public good can be defined as "any publicly induced or provided collective good" that "arise[s] whenever some segment of the public collectively wants and is prepared to pay for a different bundle of goods and services than the unhampered market will produce." (note omitted). In sharp contrast to the private-good model. . ., the emphasis of the public-good model is on the *total* societal benefits—both direct and indirect—associated with network

> modernization [emphasis in original]. As applied to the telecommunications network, the public-good model is based upon the premise that the costs of achieving and supporting a modern, state-of-the-art network infrastructure are ultimately borne by the general body of ratepayers as opposed to limited subsets of customers who exhibit a high demand for specific new services. The public-good model is conducive to establishing social policies which provide for a "supply driven definition" of infrastructure.
>
> * * *
>
> Under the public-good model, infrastructure investment[s] that are in the "public interest" are mandated by regulatory commissions, which act as surrogates for marketplace forces for the very reason that those forces break down either because of the enormous risks involved because of uncertainty with respect to costs and demand or both, or because of the intangible or unmeasurable societal benefits which are not valued by the marketplace.[12]

Q. HOW CAN THIS DISCUSSION OF PUBLIC GOODS ASSIST IN THE DETERMINATION OF HOW PGW'S UNIVERSAL SERVICE COSTS SHOULD BE ALLOCATED BETWEEN CUSTOMER CLASSES?

A. This NRRI discussion can help guide the PUC's consideration of PGW's universal service cost allocations in several ways.

- First, universal service is a "publicly induced or provided collective good" as described by the NRRI.
- Second, it is clear from prior Pennsylvania proceedings, that NRRI was correct in referring to such a "collective good" as one that not all ratepayers would choose to pay for.
- Third, the Pennsylvania universal service programs are consistent with NRRI's statement that the emphasis is on "the *total* societal benefits." Indeed, these benefits include not simply the benefits to participating customers, but also, in the words of NRRI, the benefits "both direct and indirect." As I discuss more below, the benefits arising from PGW's CRP go well beyond the individuals who directly participate in the program.
- Fourth, the finding that universal service is a "public good" has cost allocation implications to it. As NRRI points out, "the costs of achieving and supporting a

[12] National Regulatory Research Institute (October 1991). The Public Good/Private Good Framework for Identifying POTS Objectives for the Public Switched Network, NRRI: Columbus (OH).

modern, state-of-the-art network infrastructure are ultimately borne by the general body of ratepayers." As NRRI points out, having the costs of a public good (such as universal service) be "borne by the general body of ratepayers" is "opposed to limited subsets of customers who exhibit a high demand for specific new services."

- Finally, the very fact that the public benefits of Pennsylvania's universal service programs such as CAP might be hard to quantify is one of the reasons that universal service should be found to be a public good with costs allocated to all ratepayers. As NRRI points out, the public good approach applies "for the very reason that those [market] forces break down. . .because of . . .the intangible or unmeasurable society benefits which are not valued by the marketplace."

Q. HAVE ORGANIZATIONS OTHER THAN STATE UTILITY REGULATORY COMMISSIONS RECOGNIZED UNIVERSAL SERVICE AS A PUBLIC GOOD?

A. Yes. It is not merely utility regulators that recognize universal service as a "public good." In addition to the NRRI discussion cited above, the National Association of Attorneys General (NAAG) has reached this same conclusion. "At its spring 1998 meeting, the National Association of Attorneys General (NAAG) adopted a resolution addressing competition issues in electric utility transactions. . .NAAG endorsed the following principles:. . .(11) Any system benefit charges *which are imposed to support public goods* such as. . .universal service, and low-income assistance, should be applied in a competitively-neutral and non-avoidable manner." (emphasis added).[13]

Q. HOW DO PHILADELPHIA BUSINESSES, INCLUDING SMALL BUSINESSES, BENEFIT FROM THESE PUBLIC GOODS?

[13] Ilene Gotts and Gregory Racz, "Post-Script Regarding Electric Utilities Mergers," Practising Law Institute, Corporate Law and Practice Course Handbook Series, at 433, 434 (July 1998).

A. Affordable home energy can be analogized to other public goods that have been found to provide direct benefits to businesses. The Committee on Economic Development[14] has quantified the beneficial impacts to business from reducing the causes of employee absenteeism and employee turnover associated with unaffordable child care. According to the Committee:

> Many businesses also find that helping parents meet their child care needs can potentially reduce absenteeism and employee turnover. The 1990 *National Child Care Survey* (NCCS) found that 15 percent of the mothers in its sample who worked outside the home reported losing some time from work (including arriving late, leaving early, or having to take a full day off) during the previous month because of a failure in their regular child care arrangement. Studies have found that employee turnover produces disruption and inefficiency in the work environment and that the cost of replacing employees is high. For example, Merck & Co., Inc. found that it costs. . . about 75 percent of salary to replace a clerical or technical employee. It also found that it may take considerable time to fill a vacant position and an average of 12.5 months for a new employee to become adjusted to the job.[15]

Q. HOW DOES THIS RELATE TO PGW'S CRP PROGRAM?

A. Any increase in natural gas rates imposed on business customers as a result of paying their share of universal service programs would be offset, at least in part, by increases in employee productivity. One professor at Johns Hopkins University considered the extent to which increased low-income status results in increased overall costs to business. She found a variety of offsets, reporting:

> Poverty. . .produces ill-prepared workers whose lives are easily disrupted by small catastrophes. If the car breaks down, if the kid gets sick, it suddenly

[14] CED is a national business-academic partnership. One objective of CED is "to unite business judgment and experience with scholarship in analyzing the issues and develop recommendations to resolve the economic problems that constantly arise in a dynamic and democratic society." Objectives of the Committee for Economic Development. The Research and Policy Committee of the CED is directed under the organization's bylaws to "initiate studies into the principles of business policy and of public policy which will foster the full contribution by industry and commerce to the attainment and maintenance" of the objectives of the organization.

[15] Research and Policy Committee (1993). Why Child Care Matters: Preparing Young Children for a More Productive America, A Statement by the Research and Policy Committee of the Committee for Economic Development, at 1, Committee for Economic Development: New York.

> becomes impossible to be a reliable worker. Poverty also generates poor health among workers, making them less reliable still and raising the cost of employing them.[16]

Q. IS THERE AN EMPIRICALLY-ESTABLISHED LINK BETWEEN THOSE FACTORS THAT YOU HAVE BEEN DISCUSSING AFFECTING EMPLOYEE PRODUCTIVITY AND AFFORDABLE HOME ENERGY?

A. Yes. The nexus between unaffordable home energy and employee health problems can hardly be seriously questioned any more. The unaffordability of natural gas service represents a distinct public health threat, particularly to low-income households with children. According to a Congressionally-funded 2011 survey by the National Energy Assistance Directors Association (NEADA), the loss (and threatened loss) of home heating service has significant health consequences to low-income households with children.[17]

NEADA found that survey respondents reported becoming ill because their homes were too cold in the winter heating months. Nearly 1-in-5 of all energy assistance recipients (19%) reported that someone in the home became sick because the home was too cold in the past five years. These illnesses were frequently severe enough to require medical treatment. In 2011, 13% of the surveyed energy assistance recipients reported that someone in the home had become ill enough to require going to a doctor or hospital because the home was too cold in the past five years, an increase in the percentage over the corresponding 2003 and 2005 surveys. Of the households with children under age 18,

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[16] Erica Schoenberger (1999). The Living Wage in Baltimore: Impacts and Reflections, John Hopkins University Department of Geography and Environmental Engineering: Baltimore (MD).

[17] Apprise, Inc. (2011). 2011 National Energy Assistance Survey: Final Report, National Energy Assistance Directors Association: Washington D.C.

between 17% and 24% kept their homes at "unsafe or unhealthy temperatures" because they did not have enough money to pay their home heating bills.

These impacts of unaffordable home energy, which Johns Hopkins identified as the "small catastrophes" which "easily disrupt" the lives of low wage workers, are exactly the preventable events which makes such workers less reliable and raises the cost of employing them. By addressing the underlying problem, affordability programs such as CRP help remedy these problems and, as a result, deliver real dollars of benefit to the business community.

Q. HAVE THE BUSINESS BENEFITS OF LOW-INCOME ASSISTANCE PROGRAMS BEEN RECOGNIZED IN ANY OTHER SETTING?

A. Yes. The business benefits generated by programs such as CRP have been confirmed by researchers that consider the impacts of programs such as home energy affordability subsidies on private employers. One comprehensive study published in 2004 concluded:

> . . .employers have good reason to be concerned that large numbers of working people with low family incomes do not take advantage of the public benefits intended to help them and their families achieve economic sufficiency--benefits that also help employers by contributing to the economic stability of their workforces. These public benefits bolster the ability of low-income workers to meet their basic needs, in effect providing a wage supplement to employers.[18]

This joint study, performed in collaboration with the Center for Workforce Preparation of the U.S. Chamber of Commerce and the Center for Workforce Success of the National

[18] Geri Scott (2004). "Private Employers and Public Benefits," Workforce Innovation Networks (WINS): Boston (MA) and Washington D.C. WINS is a collaboration of Jobs for the Future, the Center for Workforce Preparation of the U.S. Chamber of Commerce, and the Center for Workforce Success, The Manufacturing Institute of the National Association of Manufacturers.

Association of Manufacturers, continues on to report that many low wage workers fail to access public benefits.

> This not only hurts the workers who miss out on income and benefits; it also hurts their employers through higher turnover and increased absenteeism. Unreliable transportation, inadequate child care, and poor health are leading contributors to absenteeism, tardiness, and turnover among low-income workers. An evaluation of [households leaving the TANF program] in New Jersey by Mathematica Policy Research reported that 52 percent had been fired as a result of frequent tardiness or absenteeism related to child care or health problems. In the words of a call center manager who has hired many entry-level workers through the Annie E. Casey Foundation's Jobs Initiative, "these peoples' lives are in chaos. They have so many problems they cannot pay attention to work."
>
> An unpublished survey conducted by ASE in Detroit, Michigan, highlights workplace problems that employers can experience when employees' non-work needs are not addressed. ASE asked entry-level workers and their supervisors in five companies about barriers to employee advancement. After "caring for a dependent," "money problems" were reported more frequently than 19 other potential problems ranging from "understanding work assignments" to "getting along with colleagues." "Financial worry about making ends meet" appears to contribute to absenteeism, distraction on the job, strained relations with supervisors and co-workers, and a number of other factors that reduce productivity.[19]

Q. WHAT DO YOU CONCLUDE FROM THIS INFORMATION?

A. The conclusion from this multitude of research is that all PGW customer classes will benefit from the CRP. Commercial and industrial customers, as well as small businesses, will gain direct benefits from the CRP. Accordingly, this discussion has a direct relationship to the question of whether universal service costs should be allocated to all customer classes. There is a direct relationship between the offer of CRP and economic benefits to local commercial and industrial customers. For example:

- Turnover costs business money. We know that unaffordable home energy bills lead to the frequent mobility of households.

[19] Private Employers and Public Benefits, supra.

- Time missed due to family care provision costs business money. We know that unaffordable home energy bills lead to more frequent childhood illnesses.

- Time missed due to lack of employee productivity and employee illness costs business money. We know that the inability to stay warm due to unaffordable home energy bills leads to increased illnesses.

In sum, increasing employee productivity directly contributes to the increased profitability of firms. With low-wage employees, in particular, unaffordable home energy directly contributes to lowered productivity related to the unaffordability of home energy. Increased personal illness, increased employee turnover, and increased family care responsibilities are but three of the factors contributing to lower employee productivity. The provision of affordable energy through universal service programs such as CRP positively affects each of these productivity factors.

Q. DO PROGRAMS SUCH AS CRP HELP SUPPORT THE ECONOMY OF A CITY SUCH AS PHILADELPHIA?

A. Yes. Programs such as CRP have been documented to have a substantial economic development impact in the jurisdictions in which they operate. As a significant contributor to economic development, low-income rate affordability programs provide substantive benefits to all customer classes. Because programs such as CRP contribute to additional disposable income within the low-income population, it helps drive additional job creation, income generation, and economic activity for local businesses.

Q. UPON WHAT DO YOU BASE THIS CONCLUSION?

A. A study I prepared for Entergy Services Corporation, a major electric utility serving the Middle South, found that a low-income rate affordability program would be a significant generator of jobs, economic activity, and income throughout the region. The report found:

> The distribution of energy assistance first creates economic activity for the Entergy states through the direct delivery of benefit dollars. In addition to the dollars of cash benefits, however, the delivery of energy assistance will also free up household dollars that would have been devoted to the costs arising from the payment and behavior consequences of energy bill unaffordability. These dollars, too, can then instead be spent (and circulated) in the local economy.
>
> * * *
>
> While the discussion of the economic impacts of energy assistance looks at economic benefits on a statewide basis, in fact, the economic impacts provide particular advantage to low-income communities. Existing research indicates that low-income households tend to shop at local retail establishments. For food in particular, low-income households tend to shop at small, local food stores. Moreover, not only are low-income *households* more likely to shop locally, but the *businesses* serving low-income households are more likely to shop locally as well. It is clear, therefore, that not only will the provision of energy assistance provide income and employment to low-income households, but the earnings and employment that are delivered to such households will likely be spent, retained and recirculated within the low-income community as well.[20]

In sum, I found that the delivery of energy assistance in the four Entergy states accomplishes far more for those states than simply helping low-income residents avoid arrears on home energy bills and preventing the potential loss of home energy service due to nonpayment. The delivery of home energy assistance also serves as a substantial economic stimulus for the economies of the Entergy states.

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[20] Roger Colton (August 2003). The Economic Impacts of Home Energy Assistance: The Entergy States. Entergy Services Corp: Little Rock (AR).

Q. WHAT DO YOU CONCLUDE FROM THIS DISCUSSION?

A. The conclusion that I draw from this data is that the assertion advanced by Mr. Knecht that only residential customers benefit from the PGW universal service program is simply not correct. Non-residential customers in Philadelphia, both small and large, gain direct and substantial benefits from the PGW CRP program.

Q. FOR A MUNICIPAL GAS COMPANY SUCH AS PGW IN PARTICULAR, ARE THERE OTHER FINANCIAL BENEFITS TO COMMERCIAL AND INDUSTRIAL CUSTOMERS ARISING FROM A UNIVERSAL SERVICE PROGRAM SUCH AS CRP?

A. Yes. PGW's offer of universal service programs helps to control the need to provide local government services. The connection between the loss of home energy service and housing abandonment has been documented in Pennsylvania. In addition, there is a documented connection between utility shutoffs and an increase in homelessness, with one of the primary studies being performed in Philadelphia. There is a direct connection between unaffordable home energy bills and the costs of providing public health and nutrition services. There is a documented connection between unaffordable home energy bills and public safety costs. Particularly in a city such as Philadelphia, with a large low-income population, the costs of providing these city services can be tremendous. Conversely, the benefits of mitigating the need to provide these city services will redound to the benefit of all taxpayers, including commercial and industrial entities. Allowing non-residential customers to pocket the benefit from this reduced need for municipal services, while avoiding the obligation to pay, creates an entire class of municipal service free-riders.

D. Cost Causation.

Q. MR. KNECHT ARGUES THAT ONLY THE RESIDENTIAL CLASS SHOULD PAY FOR UNIVERSAL SERVICE COSTS SINCE IT IS RESIDENTIAL CUSTOMERS THAT "CAUSE" THOSE COSTS TO BE INCURRED. DO YOU AGREE?

A. No. The original reasoning of the Bureau of Consumer Services (BCS) in recommending recovery from all classes is instructive on the question of cost causation. When BCS submitted its report on the PUC's investigation into the control of uncollectible balances in 1992, it found that "the problem of the inability of some low income customers to pay their entire home energy bills is caused primarily by societal economic conditions that <u>*are unrelated to any one rate class*</u>." (emphasis added).[21] BCS continued to find:

> The Bureau does not find any logic to the argument that because the larger societal economic conditions are negatively affecting the ability of some low income residential customers to pay their bills, that the problem is somehow caused by the residential class and should therefore be paid for by that class. If the Commission, as a regulatory authority, decides that it is in the public interest to provide home energy services for necessities of life to disadvantaged ratepayers without full payment, then the costs should be borne by all ratepayers who benefit from the companies operating as public utilities.[22]

[21] Bureau of Consumer Services, Final Report on the Investigation of Uncollectible Balances, at 157, Docket I-900002 (February 1992).
[22] Bureau of Consumer Services, at 157 - 158.

BCS was correct in its observation that the issues addressed by PGW's universal service program are caused by "larger societal economic conditions" that are not related to any one particular customer class.

Q. ARE THERE OTHER CONSIDERATIONS?

A. One of the leading academic research institutions examining the use of public assistance to subsidize low wage employment is the Institute for Labor and Employment at the University of California. The seminal study by this Institute found that:

> a growing segment of Californians work year-round but earn too little to provide for their families. As a consequence, these families must often resort to publicly funded 'safety net' programs to supplement their earnings and meet basic needs. Increasingly, public assistance is become an ongoing wage supplement for low wage workers. . .[23]

The study found that some employers "rely [...] on public assistance programs to meet some of their labor costs." The California study found that the highest concentration of workers needing a wage supplement through public assistance were employed in the retail industry.[24] Moreover, "most of public assistance to working families went to families with full-time workers, dispelling the notion that part-time work largely accounts for the low earnings of poor working families."[25]

Q. IS THIS CALIFORNIA STUDY THE ONLY STUDY DOCUMENTING A PUBLIC SUBSIDY TO LOW WAGE EMPLOYERS?

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[23] Zabin, et al (November 2004). The Hidden Public Costs of Low-Wage Jobs in California, at 3, University of California Institute for Labor and Employment, UC Berkeley.
[24] Id., at 32.
[25] Id., at 33.

A. No. A study by the Center on Wisconsin Strategy, that state's equivalent to Pennsylvania's Keystone Research Center, concluded that ". . .increasing evidence suggests that our system is out of balance. Some employers may be increasingly taking advantage of Wisconsin's strong safety net—using publicly-funded assistance programs as a *private* subsidy."[26] The Wisconsin study found that "families with strong labor market connections account for 45 percent of the total families in these [public assistance] programs and 45 percent of the costs of these five programs."[27] The study found that health care, retail trade, and durable manufacturing "all stand out for the sheer numbers of workers who are enrolled in public support programs."[28]

In addition, a study by the Center for Urban Economic Development, at the University of Illinois at Chicago, found that:

> It is vital for public benefits programs to provide assistance to Illinois' neediest families. But when profitable industries fail to pay family-supporting wages, they push their costs onto the state and its taxpayers. These hidden public costs of low wage work are an implicit subsidy to these employers.[29]

The Illinois study found that families with at least one full-time worker account for 42% of all families enrolled in these programs, and approximately 38% of total benefits costs.[30]

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[26] Laura Dresser (December 2006). When Work Doesn't Pay: The Hidden Cost of Low-Wage Work, at 4, Center for Wisconsin Strategy, Madison (WI).
[27] Id., at 15.
[28] Id., at 19.
[29] Nik Theodore and Marc Doussard (September 2006). The Hidden Cost of Low-Wage Work in Illinois, at 23 – 24, Center for Urban Economic Development, University of Illinois at Chicago (Chicago, IL).
[30] Id., at 11.

Q. HOW DO THESE STUDIES RELATE TO CRP?

A. These studies are directly on point with CRP. In Philadelphia, however, in addition to the government stepping in to provide wage supplements through public assistance programs, PGW has stepped in to provide wage supplements through the offer of CRP.

Q. DO THESE STUDIES OF LOW WAGE JOBS APPLY TO PENNSYLVANIA?

A. The studies I cite above on low wage employment absolutely apply to Pennsylvania, in general, and to Philadelphia in particular. The Keystone Research Center studied the existence of "living wage jobs" in Pennsylvania. According to this study, "a living wage job is the amount of money that a job must pay to enable the job-holder's family to be self-sufficient—to cover the cost of basic material needs without relying on public or private assistance."[31] The study found that not only for the state as a whole, but particularly for Philadelphia, there is a lack of living wage jobs. "No matter which of our living-wage definitions is used, there is a severe shortage of living-wage jobs in Pennsylvania."[32] Moreover:

> No matter how a living wage is defined and no matter which estimate of the number of living wage job-seekers is used, metropolitan Philadelphia has by far the greatest shortage of living-wage jobs of any region in the state. . .There is a shortage of jobs in Pennsylvania and a severe shortage of living wage jobs. These shortages are especially acute in the Philadelphia metropolitan area.[33]

Q. IS THERE DATA ON THE EXTENT TO WHICH CRP PARTICIPANTS REPESENT LOW WAGE EMPLOYEES?

[31] Howard Wial. The Job Gap in Pennsylvania: Are There Enough Living Wage Jobs?, at 8, Keystone Research Center (Harriburg, PA).
[32] Id., at 17.
[33] Id., at 16, 18.

A. Yes. The 2012 evaluation of the PGW CRP presented information on source of income. According to that independent evaluation, 17% of current CRP participants received wage or self-employment income, while 30% of past CRP participants had.[34] Clearly the multitude of studies I discuss above, regarding the wage supplement and work-force preparation functions served by a program such as CRP, have direct applicability to Philadelphia in general, and to the PGW CRP program in particular.

Q. HOW DO THESE STUDIES RELATE TO THE ALLOCATION OF THE COSTS OF PGW'S CRP?

A. The reason some businesses can offer low wage employment to so many of their employees is because of the external programs such as CRP that are available to help fill the wage gap. One analysis reports, for example, that businesses paying low wages:

> . . .are effectively being subsidized by taxpayers through government assistance programs (e.g., food stamps, Earned Income Tax Credit) which help many low-wage employees survive. . .[B]usinesses that pay poverty wages indirectly rely on government assistance programs to make up the difference between these wages and what it costs their employees to live.[35]

The same analysis applies to PGW. The businesses that pay low wages indirectly rely on PGW's willingness to make up the difference between those wages and what it costs the employees to live. Requiring all customer classes to help pay for the PGW universal service programs which respond to the inability-to-pay resulting from the payment of low wages is simply one mechanism to have the customer classes which contribute to the need for the universal service program pay some part of the cost of that program.

[34] Apprise, Inc. (November 2012). Philadelphia Gas Works Customer Responsibility Program: Final Evaluation Report, at 27, Apprise, Inc. (Princeton NJ).
[35] Karen Kraut, Scott Klinger and Chuck Collins (2000). Choosing the High Road: Businesses that Pay a Living Wage and Prosper, at 14, 16, Responsible Wealth: Boston (MA).

Q. WHAT DO YOU CONCLUDE?

A. I conclude that Mr. Knecht's argument that the allocation of costs to all customer classes represents a subsidy flowing from business customers to residential customers is mis-guided. CRP is a program that, like the public assistance programs discussed in more detail above, provides a wage supplement to low-wage employers. Indeed, I conclude that a *failure* to allocate the costs of CRP to all customer classes would represent a direct subsidy flowing from the residential class to business customers in the form of a wage supplement provided through rate discounts. I conclude finally that no causal connection can be drawn from PGW's universal service costs to any particular customer class. PGW's CRP costs should be borne by all customer classes.

Q. PLEASE SUMMARIZE YOUR TESTIMONY ABOVE.

A. My testimony demonstrates that Mr. Knecht's proposal to change PGW's historical allocation of universal service costs should be rejected. Instead, PGW should be allowed to continue to allocate its universal service costs in the way it has allocated such costs in the past. That allocation process is consistent with the allocation of overall costs and benefits generated by the move to a retail choice environment, allocates the costs to all customer classes deriving benefits from the universal service programs, follows cost-causation principles, and is consistent with sound regulatory policy.

E. Ability of Residential Class to Absorb.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. One important factor to take into account in deciding upon changes in the policy regarding the allocation of PGW's universal service costs involves the ability of residential customers to absorb the increased costs associated with the proposed change. PGW's customers are in no position to absorb a change in the 25-year old policy regarding cost allocations. According to the U.S. Census Bureau, in 2015, the bottom quintile of Philadelphia households by income[36] had an average income of $7,368. Given that 100% of the Federal Poverty Level in 2015 was $11,770 for a 1-person household, even if one assumes that every household had only one person, the data shows that, on average, households in the bottom 20% of income in Philadelphia have an income of only 63% of Poverty Level. A 2-person household, in 2015, would have an income of $15,930 at 100% of Poverty Level. Assuming an average household size of two persons, the bottom quintile would be living at 46% of Poverty.

It is possible to make this inquiry more local than through the use of Federal Poverty Level. Presented below is a comparison of the average income for the bottom quintile of Philadelphia households to the annual median income for Philadelphia. As can be seen, households with income in the bottom 20% live with incomes ranging around 10% of the area median income for the City of Philadelphia.

[36] The Census Bureau ranks households by their level of household income and then divides the number of households into five equal parts. The "bottom quintile" (or "first" quintile) is the 20% of households with the lowest income.

	2013	2014	2015
Philadelphia median income	$65,123	$62,243	$61,453
Avg income: bottom quintile	$6,507	$7,020	$7,368
Percent of median	10.0%	11.3%	12.0%

One impact of these low-incomes is that a substantial number of PGW's low-income customers have service involuntarily disconnected for nonpayment. Over the past three years, the percent of households experiencing an involuntary disconnection for nonpayment has increased to nearly 13%.

2013	2014	2015
11.90%	10.70%	12.80%

The percentage of low-income customers that are in arrears has increased in the past three years as well. The percentage of low-income customers that are in arrears has nearly tripled from 2013 to 2015, from 5.1% to 13.1%.

2013	2014	2015
5.1%	9.1%	13.1%

The fact that Philadelphia's low-income population simply cannot absorb a change in the nearly 25-year old policy regarding universal service costs is seen in the facts that low-income arrears (both in terms of dollars in arrears and accounts in arrears) are increasing faster than residential arrears generally. The percentage of total residential arrears (dollars) that are associated with low-income customers has increased from 18% in 2013 to 31% in 2015. The percentage of total residential accounts in arrears that are associated with low-income customers has increased from 12% in 2013 to 26% in 2015.

	2013	2014	2015
Pct dollars in arrears LI	18%	22%	31%
Pct accts in arrears LI	12%	22%	26%

Q. ARE NOT THESE CUSTOMERS PROTECTED BY THEIR PARTICIPATION IN CRP?

A. No. PGW's participation in CRP has declined by 30% (24,262 customers) from 2010 to 2015. This decline in CRP participation has occurred despite the fact that the number of confirmed low-income customers on the PGW system has increased by more than 22,000 customers.

	2010	2011	2012	2013	2014	2015
Confirmed Low-income	156,711	163,836	156,747	186,780	181,143	178,899
CRP participants	82,544	80,298	75,224	68,458	61,319	58,282

Q. WHAT DO YOU CONCLUDE?

A. PGW's customer base is not in a financial position to absorb the additional costs associated with changing the policy regarding universal service cost allocation that has been in place for more than 24 years.

Q. WHAT DO YOU RECOMMEND?

A. Mr. Knecht's recommendations for a change in PGW's universal service cost allocations should be rejected.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

ATTACHMENTS ACCOMPANYING THE

REBUTTAL TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

June 9, 2017

Percentage of Income Burdens and the Factors that Affect where such Burdens are Established In Ratepayer-funded Bill Payment Assistance Programs

Prepared by:
Roger Colton: Fisher Sheehan and Colton
January 2017

State	Uniform program type?[37]	Program type	Heating payment burden[38]	Non-heating payment burden	Tiered by income or not?[39]	Bill reduced by LIHEAP?[40]	Limit on annual benefits?[41]	Limit on total annual program costs?[42]	Limit on cost per ratepayer?[43]	Who pays?
Maine	Individual within design constraints	Varied by utility	<75% FPL: 7.1% 75 – 150% FPL: 12.1%[44]	<75% FPL: 6% 75 – 150% FPL: 11.1%	Yes	Yes	Benefits < $50 not paid. Benefit cap of $1,800.	Roughly 0.5% of total jurisdictional revenues	No	All ratepayers
New Hampshire	Single statewide program	Tiered discount	4 – 5% (achieved by applying tiered percentage of bill discounts on first 750 kWh of usage)[45]		Yes	No (electric-only program)	No	Implied by the cap on the charge used to generate the subsidy fund.	Yes (single charge to support LI assistance and energy	All ratepayers

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[37] Do all utilities throughout the state use the same program design; is there a single statewide program; or do utilities have individual programs within state design constraints?
[38] Central Maine Power.
[39] This column reports whether the program has separate affordable burdens for differing income ranges (generally set forth in terms of a percentage of the Federal Poverty Level).
[40] Is LIHEAP subtracted from the bill before determining the percentage of income burden borne by the household?
[41] This column reports whether there are per-participant limits (or ceilings) on annual benefits.
[42] A limit on the cost per ratepayer may imply a limit on total annual program costs. The question here, however, is whether there is an explicit limit on the total program budget.
[43] This column reports whether the ratepayers paying for the low-income program have caps on the amounts that they are required to pay. Such a cap may be set in terms of a percentage of total bill; a dollar amount per month (or year), or a dollar amount per unit of energy (kWh or therm).
[44] These Maine percentage of income burdens were accurate as of a few years ago. I have tried to confirm them for more recent years, but cannot find any document that sets forth the current CMP percentage of income burdens. I will contact folks at the Maine state LIHEAP office and see if I can get something that tells me what the current numbers are. They may (but may not) be the same. There is no reason to expect that they will have changed, but I just don't *know* that.
[45] Original program design adopted so that the percentage of bill discounts would yield burdens of 4% for non-heating electric customers and 6% for electric heating customers.

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Percentage of Income Burdens and the Factors that Affect where such Burdens are Established In Ratepayer-funded Bill Payment Assistance Programs Prepared by: Roger Colton: Fisher Sheehan and Colton January 2017											
State	Uniform program type?[37]	Program type	Heating payment burden[38]	Non-heating payment burden	Tiered by income or not?[39]	Bill reduced by LIHEAP?[40]	Limit on annual benefits?[41]	Limit on total annual program costs?[42]	Limit on cost per ratepayer?[43]	Who pays?
									conservation)[46]	
New Jersey	Single statewide program	PIPP	3%: electric and gas standing alone. 6%: all electric		No	Yes	$1,800 per year.	No	No	All ratepayers
Ohio	Single statewide program	PIPP	6% or $10 (lesser): gas and electric standing alone. 10% or $10 (lesser): all electric		No	No (LIHEAP applied to arrearages)	Yes	No	No	All ratepayers
Illinois	Single statewide program	PIPP	3%: electric and gas standing alone. 6%: all electric		No	Yes	$1,800	Implied by the cap on the charge used to generate the subsidy fund.	Yes	All ratepayers
Colorado	Individual within state constraints	Varied by utility	Xcel: 3% gas and electric standing alone; 6% all electric SourceGas:[47] <75% FPL: 2%; 75 – 125% FPL: 2.5%; 125%+: 3%		Some utilities but not all	Yes	No	Annual budget presented to CPUC for approval	Yes	All ratepayers
Nevada	Single statewide program	PIPP	Reduce individual household burden to not more than percentage of income paid at state median income (calculated annually)		Per household benefit tiered by income and by household size	LIHEAP added to ratepayer funds to comprise benefit	Yes	Implied by the cap on the charge used to generate the subsidy fund.	Yes	All retail customers

[46] A prescribed portion of the per kWh charge is to be devoted to bill assistance.
[47] SourceGas has recently been purchased by Black Hills Energy.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Roger D. Colton, hereby state that the facts above set forth in my Rebuttal Testimony, OCA Statement No. 4-R, are true and correct and that I expect 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).

Signature: ______________________
Roger D. Colton

Consultant Address: Fisher, Sheehan, and Colton
34 Warwick Road
Belmont, Ma 02478

DATED: June 9, 2017
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OCA Statement No. 4-S

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2017-2586783
Philadelphia Gas Works	:	

SURREBUTTAL TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

June 22, 2017

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Roger Colton. My business address is 34 Warwick Road, Belmont, MA 02478.

Q. ARE YOU THE SAME ROGER COLTON WHO PREVIOUSLY PREPARED PREFILED WRITTEN DIRECT TESTIMONY ON BEHALF OF THE OFFICE OF CONSUMER ADVOCATE?

A. Yes.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY.

A. The purpose of my Surrebuttal Testimony is to respond to the rebuttal testimony of the following witnesses.

- PGW Witness Dybalski;
- PGW Witness Adamucci;
- PGW Witness Peach;
- PGW Witness Cummings;
- PGW Witness Stunder; and
- I&E Witness Maurer.

Part 1. Response to PGW Witness Dybalski.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my Surrebuttal Testimony, I respond to the rebuttal testimony of PGW Witness Kenneth Dybalski regarding the impact of PGW's Customer Responsibility

Program ("CRP") on housing abandonment. Mr. Dybalski stated that "based upon my experience, there is a connection between the loss of home energy service and housing abandonment." (PGW St. 6-R, at 4). The relationship between the loss of home energy service and housing abandonment should not be based exclusively on Mr. Dybalski's experience. There is substantial empirical research that also documents this connection. Temple University's Institute for Public Policy Studies ("IPPS"), for example, studied this relationship for the City of Philadelphia.[1] IPPS reported that "a very strong relationship exists between utility service termination and housing abandonment. . .For the Philadelphia Gas Works, the lowest percentage since 1986 was 13%, which occurred in 1990 and the highest was 41% which occurred in 1986." (IPPS, at 10).

The most recent "Cold Weather Survey" ("CWS") published by the Pennsylvania Utility Commission continues to support this conclusion. The 2015 CWS reported that of the homes that PGW had disconnected in 2014, 2,484 were vacant at the beginning of the cold weather season. Of the homes that PGW had disconnected in 2015, 1,796 were abandoned at the beginning of the cold weather season. In 2016 (the most recent year for which data is available), 1,103 homes were abandoned by the start of the winter heating season after gas service was disconnected.

Q. WHAT DO YOU CONCLUDE?

A. It is reasonable for PGW to conclude, as indicated by Mr. Dybalski, that the unaffordability of natural gas service, and the resulting disconnection of service, presents

[1] Institute for Public Policy Studies (June 1991). An Examination of the Relationship between Utility Terminations, Housing Abandonment, and Homelessness, Temple University: Philadelphia (PA).

a very real threat to the stability of the City of Philadelphia, as a city, and to each of its residents (both business and residential). The City has a reasonable basis to conclude that stabilizing natural gas affordability will stabilize neighborhoods, stabilize residents, and reduce the physical and fiscal threats to the City's occupants, residential and business alike.

Part 2. Response to PGW Witness Adamucci.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the Rebuttal Testimony of Denise Adamucci as it relates to budget billing, my recommended heating repair and replacement program, LIURP funding, and CRP cost recovery.

Q. PLEASE RESPOND TO MS. ADAMUCCI'S REBUTTAL TESTIMONY REGARDING YOUR ASSESSMENT OF PGW'S BUDGET BILLING PRACTICES.

A. Ms. Adamucci states, without reference to data, that "the default Easy Way budget amount for residential heating customers is $91.00 (and not the $190 relied upon by Mr. Colton.)" (PGW St. 9-R, at 6). Ms. Adamucci's assertion is contrary to PGW's "Customer Service Representative: New Hire Training" on the Easy Way Budget Plan provided to OCA by the Company. PGW's Staff Training materials inform their "new staff hires" that "How the Easy Way Budget payment amount is determined. . .An account requires 9 months (270 days) to calculate a **Suggested Payment Amount.**

(emphasis in original). If insufficient history is available, a flat rate is used: Residential Non-Heat: $ 75.00; *<u>Residential Heat: $ 190.00</u>*." (OCA VIII-7, Attachment A, page 6). (emphasis added). I have attached this page from the PGW discovery response as Appendix A. The important question here is this: how are PGW customer service representatives *<u>trained</u>* to perform their jobs. Notwithstanding what Ms. Adamucci asserts in her testimony, in light of the Company's staff training materials, it certainly appears that PGW staff is trained to impose a default budget billing amount of $190. As Ms. Adamucci's testimony reports, this is far higher than the "12-month average heating bills for residential customers," which she reports "ranged from a low of $77.22 to a high of $95.99." (PGW St. 9-R, page 6). The Company's default budget billing amount is clearly in violation of PUC regulation 52 Pa. Code § 56.12(7) which requires that Budget Billing amounts reflect "average estimated public utility service costs" over a 10-, 11- or 12-month period.

Q. PLEASE RESPOND TO MS. ADAMUCCI'S REBUTTAL TESTIMONY CONCERNING YOUR PROPOSED HEATING REPAIR AND REPLACEMENT PROGRAM.

A. Ms. Adamucci argues that my proposed heating repair and replacement program should be rejected in this proceeding because, in a different proceeding, the PUC declined to adopt a proposal that Ms. Adamucci argues was "a very similar proposal that was offered by another party." (PGW St. 9-R, pages 12, 16). Ms. Adamucci does not detail the foundation for her conclusion that the recommendation made in that other proceeding was "a very similar proposal."

In this proceeding, however, a strong factual foundation for the proposed heater repair and replacement program has been offered. Moreover, Ms. Adamucci does not acknowledge that PGW is the *only* Pennsylvania natural gas utility (other than UGI) that does *not* operate an emergency repair and replacement program such as that which I recommend. Ms. Adamucci does not acknowledge that in approving such programs for Peoples Gas, after which my proposal was modeled, the PUC stated: "LIHEAP and LIURP cannot meet all of the needs of the low-income community because, even with these programs, there is still a need for additional low income weatherization and emergency furnace and lines repairs. The adoption of these two programs and their recovery under Rider F will provide important weatherization and emergency furnace and line repair benefits to low income customers that may not otherwise be available." (Recommended Decision, at 31, adopted in total without further comment, Order, June 9, 2011).

Ms. Adamucci does not acknowledge that when PGW asked me for the basis for my recommendation, I explained that "[Mr. Colton] regularly engages in a review of the collections performance and universal service programs, as well as the results of the Pennsylvania PUC's annual 'cold weather survey.' This review includes a comparison of PGW to the data published for other Pennsylvania natural gas utilities, including Peoples Natural Gas." (PGW Discovery to OCA, Set II, No. 52). I informed PGW that my recommendation was "based on PUC-published annual reports, including rate/bill comparisons; customer service/quality of service; cold weather survey reports; consumer activities (U-CARE); Chapter 14 activities and outcomes (bi-annual report); and universal service programs and collections performance." (OCA Response to PGW II-52). The presentation in the prior proceeding had none of this factual basis in support of the proposal.

Q. DO YOU HAVE ANY ADDITIONAL OBSERVATIONS CONCERNING MS. ADAMUCCI'S CHARACTERIZATION OF YOUR PROPOSED EMERGENCY REPAIR AND REPLACEMENT PROGRAM?

A. Yes. Ms. Adamucci asserts that funding repairs and replacements of gas heating sources would "positively impact" only the "local electric company and its ratepayers." (PGW St. 9-R, page 16). That's not accurate. Providing an emergency repair and replacement program is an important customer service to provide to natural gas customers as natural gas customers. Pursuing a repair and replacement program also benefits PGW (and its ratepayers) by maintaining load and keeping customers paying for natural gas. It is one reason that every other Pennsylvania natural gas utility (other than UGI) offers such a program (which programs have been approved by the PUC). As I indicated in my Direct Testimony, the absence of such a program means that the inability to afford the repair or replacement of heating systems forces PGW customers into the use of unsafe and dangerous alternative heating sources. Eliminating that safety hazard is not just a benefit conferred upon the local electric utility. Focusing exclusively on the reduction in electric costs much too narrowly assesses the benefits of the proposed emergency heating repair and replacement program.

Q. PLEASE RESPOND TO MS. ADAMUCCI'S REBUTTAL TESTIMONY REGARDING YOUR PROPOSED CRP COST OFFSETS.

A. Ms. Adamucci asserts that "Mr. Colton actually proposes to reduce the amount of costs that can be recovered for PGW's CRP." (PGW St. 9-R, page 14). That assertion is not correct. As I explain in detail in my Direct Testimony, I propose to eliminate the *double-recovery* of costs through my bad debt and my working capital offsets. My recommendation does nothing more than address the concerns that the PUC has previously agreed are legitimate, specifically as applied to PGW. In 2007, the PUC has held, in reviewing the ALJ opinion: "The ALJs also found that PGW never addressed whether double recovery is or is not possible when participation exceeds projections in CRP. Rather, PGW makes generalities of other reasons for increases in the CRP expense. The ALJs believe that the OCA made a convincing argument that *double recovery is a possibility* and can be alleviated by implementing a mechanism for reconciliation and that PGW did not provide a persuasive argument that the current practice guards against double recovery." (Pennsylvania PUC v. Philadelphia Gas Works, R-0006193, slip opinion, at 39, citing CAP Policy Statement (Order entered September 28, 2007). The Commission further held: "We find the ALJs recommendation to be supported by the record as well as Section 1408 of the Code. Accordingly, we find OCA's argument to be convincing. *Double recovery of uncollectible accounts expense is a possibility* and can be alleviated by implementing a mechanism for reconciliation." Id. at 42. Ms. Adamucci's comment that my proposed offsets simply "reduce the amount of costs that can be recovered" is at direct odds with the PUC's prior findings that the double recovery which I demonstrate "is a possibility and can be alleviated by implementing a mechanism for reconciliation." That "mechanism" is the working capital and bad debt offset I proposed in my Direct Testimony.

Part 3. Response to PGW Witness Peach.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR SURREBUTTAL TESTIMONY.

A. In this section of my Surrebuttal Testimony, I respond to the elements of PGW Witness Gil Peach as they relate to my Direct Testimony. My response below is only to the two specific recommendations I make on which Dr. Peach comments: the emergency repair and replacement program, and the CRP bad debt and carrying cost offsets.

Q. PLEASE RESPOND TO DR. PEACH'S TESTIMONY REGARDING YOUR PROPOSED EMERGENCY REPAIR AND REPLACEMENT PROGRAM.

A. To the extent that I do not specifically respond to Dr. Peach's arguments in this section, that means that I have previously addressed his arguments when I discussed the Rebuttal Testimony of PGW Witness Adamucci. Dr. Peach does make two statements, however, to which I respond.

First, Dr. Peach asserts that if the need for an emergency repair and replacement program "is to be treated as a utility problem, it is a joint utility problem. It should not be addressed by the ratepayers of only one affected company." (PGW St. 11-R, page 27). This statement appears to assume that PGW is the only utility to which the need for an emergency repair and replacement program has been presented. In fact, with respect to an emergency repair and replacement program, PGW remains the outlier as being the only Pennsylvania natural gas utility (other than UGI) to remain *without* an emergency repair and replacement program. While Dr. Peach's recommendation to pursue a multi-utility conversation might apply if such a program were being proposed for an electric utility, the case here is about PGW and the benefit of having safe, working natural gas heating systems for PGW customers.

Second, Dr. Peach cites the existence of the City of Philadelphia's Basic Systems Repair Program ("BSRP") as being available to address the need for an emergency repair and replacement program. The existence of the BSRP, however, indicates the need for PGW participation. In citing to the BSRP, what Dr. Peach failed to report was that within that program, there is a "Heater Repair Hotline." If the Heater Repair Hotline staff determine that a heater needs to be replaced, that staff forwards an application to BSRP. BSRP assistance is provided only to homeowners. BSRP assistance focuses on "major systems repairs: including but not limited to exposed wires; blinking lights; dangerous electrical conditions; leaking or broken sewer lines; leaking or broken water service lines; and/or violation notices from the Water Department. The BSRP mandates that one must own and live in the house to be repaired. The BSRP mandates that *only* single-family homes will be treated. The BSRP mandates that "a*ll* hazardous conditions must be resolvable within grant limits in order for *any* work to be performed." (emphasis added). The City of Philadelphia's Division of Housing and Community Development informs the public that "unfortunately, there is currently a very long waiting list for the program." That "very long waiting list" is projected to reach more than 7,000 households and to be from three to five years. The BSRP demonstrates a need for the program as I recommend for PGW. It does not indicate the lack of need for such a PGW program.

Q. PLEASE RESPOND TO DR. PEACH'S TESTIMONY REGARDING YOUR PROPOSED BAD DEBT OFFSET FOR PGW.

A. Dr. Peach presents what he asserts is a statistical analysis showing that there is no relationship between the size of the CRP population and PGW's bad debt expense. Dr. Peach's statistical analysis suffers from the same problems that I will address below in my response to the Rebuttal Testimony of PGW witness Stunder. Dr. Peach seeks to associate the level of CRP participation with the *total* bad debt expense of PGW. There is, however, no reason that the level of CRP participation would affect either the bad debt expense of non-low-income customer accounts, or affect the bad debt expense of confirmed low-income customers who do not participate in CRP. Had Dr. Peach wanted to perform an appropriate statistical analysis, he would need to have limited his inquiry to the costs and revenues that my proposed bad debt offset affects. An appropriate statistical analysis, in other words, would need to have been limited to the revenue that was being billed to confirmed low-income customers not participating in CRP, who subsequently enrolled in CRP. The question is whether moving a portion of the total bill to that population of customers from the asked-to-pay amount of the low-income customer to the asked-to-pay amount of residential customers as a whole would result in a double-recovery.[2] As I explain in detail in my Direct Testimony, and as the PUC has

[2] Moving this portion of the bill occurs through the mechanism of the CAP Credit. The CAP Credit is that portion of a bill that is no longer contained in the asked-to-pay amount billed to CRP participants and is instead moved to the asked-to-pay amount of residential customers as the CAP Credits are collected through PGW's Universal Service Surcharge.

recognized on a number of occasions, with respect to that specific element of revenues, PGW will experience a double-recovery in the absence of a bad debt cost offset for CAP Credits associated with CRP participants exceeding the base number.

Q. DO YOU HAVE ANY FINAL RESPONSE TO DR. PEACH'S TESTIMONY?

A. Yes. Dr. Peach argues in his testimony that low-income customers are not likely to be low-use customers. (PGW St. 11-R, pages 23-24; see also, PGW St. 9-R, pages 2 – 3). He notes that the known usage of CRP participants would mean that low-income non-CRP participants would need to have usage of 74% of average residential usage. (PGW St. 11-R, page 23). This is not likely, he asserts, because low-income customers "often" live in housing that is older and less efficient.

What Dr. Peach rules out, without citation to data, is precisely what the U.S. Department of Energy reports in its Residential Energy Consumption Survey ("RECS"). The RECS data below shows natural gas consumption by income for the Northeast Region of the United States (of which Pennsylvania is a part). (RECS Table CE2.2).

2009 Annual Household Income	Avg Gas Use (mmBtu)
Less than $20,000..................................	58.7
$20,000 to $39,999.................................	76.5
$40,000 to $59,000.................................	69.7
$60,000 to $79,999.................................	70.7
$80,000 to $99,999.................................	81.2
$100,000 to $119,999.............................	92.7
$120,000 or More..................................	114.4

The RECS data shows that households with income less than $20,000 have natural gas consumption that is only:

- 83% of the gas consumption of households with income of $60,000 to $79,999;
- 72% of the gas consumption of households with income of $80,000 to $99,999;
- 63% of the gas consumption of households with income of $100,000 to $119,999; and
- 51% of the gas consumption of households with income of $120,000 or more.

The natural gas consumption of CRP participants is substantially higher than CRP non-participants because to the extent that households have lower consumption (and thus lower bills), their bills are lower than the CRP percentage of income burdens that allow customers to receive benefits through the program. By design, in other words, households with lower consumption will not be CRP participants.

Dr. Peach argues that low-income customers will not have lower consumption because they "often" live in housing that is older and less efficient. What DOE reports in its RECS is that while low-income housing may be less efficient on a per square foot basis (for the reasons Dr. Peach cites), low-income housing is sufficiently smaller (than non-low-income housing) such that *total* consumption is substantially lower. This association between low-incomes and smaller housing units is true in Philadelphia. Low-income households tend to be renters; tend to live in apartments (not single-family, detached or attached) homes; tend to live in homes that have fewer bedrooms; and tend to live in homes that have fewer total rooms. In Philadelphia, even if low-income gas usage is less efficient on a per square foot basis, low-income homes are much smaller than homes in general. As a result, total gas consumption is lower than the residential average.

I conclude that not only does Dr. Peach's "indirect analysis" not support the conclusion that low-income households do not have low-usage, but that Dr. Peach's analysis that non-CRP customers[3] would need to have usage 74% of average residential usage falls precisely within the ranges of low-income usage reported by the RECS.

Part 4. Response to PGW Witness Cummings.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR SURREBUTTAL TESTIMONY.

A. In this section of my Surrebuttal Testimony, I respond to the Rebuttal testimony of Bernard Cummings as it relates to partial payment allocations, to Budget Billing and to the treatment of accounts with arrears exceeding $10,000.

Q. PLEASE RESPOND TO MR. CUMMINGS' TESTIMONY REGARDING YOUR RECOMMENDATIONS REGARDING BUDGET BILLING.

A. Mr. Cummings disagrees with my analysis of Budget Billing because, he asserts, "PGW's Easy Way budget billing program already consists of 'good payers' because residential customers are not able to enter the program unless they are current on their bills." (PGW St. 10-R, page 34). In making this statement, Mr. Cummings categorizes customers into either being, using his terminology, "good payers" or presumably "not

[3] It is important to remember that the 74% is not of low-income customers generally. It is of low-income customers not participating in CRP. Since, as Dr. Peach acknowledges, high usage low-income customers participate in CRP, the 74% is of the remaining low-use, low-income customers.

good payers." He categorizes customers as "good payers" exclusively by whether they are "current on their bills" at a particular point in time.

Unfortunately, Mr. Cummings ignores the lessons of PGW's study that segments customers based on payment patterns. The Company's segmentation study disagrees with Mr. Cummings conclusions. Based on its empirical analysis, PGW concluded that "Easyway participation tends to improve Paid vs. Asked-to-Pay performance." (PGW Customer Segmentation Analysis: Customers First, Final Analysis and Recommendations, Executive Summary, page 6).[4]

The Company's analysis identified a group of customers that it labelled Segment 3, "On-Time/Occasionally Late." (PGW Segmentation Study, page 11). It recommended "EASYWAY Budget Billing" as a way to reduce credit and collection costs to these customers. (Id.)

Moreover, PGW's segmentation study identified a group which the Company referred to as Segment 4, "Chronic Late Payers (often late, never shutoff)." According to PGW, 80% of these Segment 4 customers have more than four late payments a year, and 40% pay less than their full bill. (PGW Segmentation Study, page 12). PGW's segmentation study reported, as a recommended response, the use of "EASYWAY budget billing." (Id.). The Company's full report (rather than the Executive Summary quoted above) reported that Chronic Latepayers have a 20% seasonal shift in the percentage of the

[4] PGW was not aware of its own report. Accordingly, the OCA provided the Company with a copy in response to discovery. OCA Response to PGW-I-5 (providing source document for footnote 32 of my Direct Testimony).

Asked-to-Pay amounts actually paid, and have a 25% seasonal shift in late payments (compared to 7% for the residential class as a whole). The Company's segmentation analysis reported that even during a time of improving overall collections, there was an increasing shift in seasonal payments. (Customer Segmentation, Full Report, page 9). The Company's report concluded that "an increasing shift in a period of overall improvement indicates that the negative seasonal impact needs to be managed better." (Id.). The Company finally concluded that "while all segments are sensitive to seasonality, Chronic Late Payers are most sensitive and would benefit from budget billing and automatic payment." (Customer Segmentation, Full Report, page 8). The Company recommended placing these Chronic Late Payers on EASYWAY Budget Billing. (Customer Segmentation, Full Report, page 28). The Company's empirical analysis reported that increasing EASYWAY participation had "medium" credit and collection impacts for customers that were "on-time, occasionally late" and had "high" credit and collection impacts for customer that were chronically late.[5]

Q. WHAT DO YOU CONCLUDE?

A. Mr. Cummings assertion, based on his "experience," that "the general payment habits of a customer do not vary too significantly because they are able to pay on a levelized payment plan" is at direct odds with the sophisticated customer segmentation analysis previously performed by PGW.

[5] "Chronically late" was distinguished from those customer segments that were labelled as "Perpetually Challenged" and "Chronically Delinquent."

Q. HAVE YOU PROPOSED TO MAKE PARTICIPATION IN BUDGET BILLING MANDATORY?

A. No. My proposal to maintain customers who enter a deferred payment agreement on budget billing at the end of their payment agreement unless they request to be removed is not a proposal to make budget billing mandatory. Under this approach, budget billing participation remains an option and not a requirement.

Q. PLEASE RESPOND TO MR. CUMMINGS' REBUTTAL TESTIMONY REGARDING YOUR PROPOSED COLLABORATIVE REGARDING ACCOUNTS THAT OWE $10,000 OR MORE.

A. Mr. Cummings objects to my proposal to engage in a collaborative process to discuss possible ways to improve customer service to, and improve collections from, customers who have an arrearage of $10,000 or more to PGW. He states that he is "not sure" of the problem to be addressed (PGW St. 10-R, page 26), and dismisses multiple suggestions on how to either: (1) improve the collection of revenue from customers owing $10,000 or more; or (2) reduce the bills to those customers with an arrearage of $10,000 or more. (PGW St. 10-R, pages 26 – 32).

Mr. Cummings appears to assume that the decline in total arrearages associated with customers owing $10,000 (from $4,930,634 to $4,122,061) was because that $809,000 was somehow paid by customers. It is more likely, of course, that those customers were removed from the system (either voluntarily or involuntarily) with the $810,000 being charged to all other ratepayers. Mr. Cummings further appears to assume that the decline in the number of accounts with an arrearage of $10,000 or more (from 345 to 299) was attributable paying down their arrearage. It is more likely that those customers were removed from the system (either voluntarily or involuntarily), with their associated arrears being charged to all other ratepayers.

It is unreasonable to believe the PUC directed Pennsylvania utilities to begin to report annual information on accounts with arrearages that equal or exceed $10,000 with the data to be reported but remain unused. The statute (Section 1410.1(3)), requires more than the reporting of data. The statute states that utilities (including PGW):

> Have an affirmative responsibility to attempt to collect payment on an overdue account. The utility shall report to the commission annually residential customer accounts which have accumulated $10,000 or more in arrearages and shall demonstrate what efforts are being taken to collect the arrearages. Failure to make reasonable attempts to collect payments on overdue accounts with arrearages in excess of $10,000 may result in civil fines or other appropriate sanctions by the commission."

Mr. Cummings appears to be satisfied with having PGW file its report with the PUC be the end of the process. In contrast, my proposal is for the filing of the report to represent the beginning of the process for addressing the long-standing problem of accounts that owe very large arrears. Mr. Cummings' opposition to a proposed collaborative process on how to address these large arrears should be rejected.

Q. PLEASE RESPOND TO MR. CUMMINGS' REBUTTAL TESTIMONY REGARDING PGW'S PAYMENT ALLOCATION PROCESS.

A. I will not respond to much of Mr. Cummings' Rebuttal Testimony. Most of that testimony consists of assertions that PGW's payment posting practices either comply with PUC regulations or do not violate PUC regulations. (See, e.g., PGW St. 10-R, pages 5-6, 7-8, 10-11). The appropriate place for a response to such legal assertions is in any written brief which OCA might file in this proceeding.

Before responding to several of the assertions that Mr. Cummings makes in rebuttal to my Direct Testimony, I first note that he agrees with the basic factual foundation for the dispute being presented to the Commission for resolution:

- Mr. Cummings agrees that "when partial payments are received, they are posted according to a hierarchy: deposit if required is posted first; then any outstanding late payment charges are satisfied; and then the remaining balance of the payment is posted to the oldest money. . ." (PGW St. 10-R, page 7). Mr. Cummings agrees that PGW's current practices involve "paying off the late payment charges before the so-called 'principal' charges. . ." (PGW St. 10-R, page 8).
- Mr. Cummings further states that "I do not disagree that a customer may ultimately pay more for services when late payment charges are zeroed out before partial payments are posted to 'principal.'" (PGW St. 10-R, page 15.

These two statements taken in combination confirm that, as I first stated in my Direct Testimony, that PGW posts customer payments in a manner such that non-interest-bearing late payment charges are retired before interest-bearing bills are, even if the interest-bearing bills were incurred at an earlier time.

Q. PLEASE RESPOND TO MR. CUMMINGS' STATEMENTS THAT SCHEDULE RDC-1 (PAGE 1 OF 2) CONTAINED ARITHMETIC ERRORS.

A. Mr. Cummings correctly identified certain aspects of Schedule RDC-1 (page 1 of 2) that contained errors of arithmetic. (PGW St. 10R, pages 14-15). I have attached a revised Schedule as Schedule RDC-1(SR) to this surrebuttal testimony. These revisions do not change the analysis or the conclusions of my Direct Testimony. The Schedule appropriately applies the late charge to the cumulative unpaid bill for current service and appropriately allocates payments between late charges and unpaid bills for current service. The Schedule uses a 1.5% monthly late payment charge for PGW. The revised schedule attached as Schedule RDC-1SR does not change the fact that, as I note immediately above, there is no dispute about how PGW allocates customer payments. PGW re-sequences customer payments so as to post those payments to retire *all* non-interest bearing late fees before posting payments to retire *any* interest-bearing unpaid balances for current service, even in those instances the unpaid balance for current service was incurred at an earlier date.

Q. PLEASE RESPOND TO MR. CUMMINGS' ASSERTION THAT PGW DOES NOT CHARGE COMPOUND INTEREST.

A. Contrary to what Mr. Cummings asserts (PGW St. 10-R, pages 12 – 13), I have not ever asserted that PGW charges compound interest. Instead, what I state is that PGW's payment posting practices "generate the ***same effect*** as compounded interest." (OCA St. 4, pages 4, 43). This difference is significant. The PGW payment posting process generates the same effect as charging an interest rate of 19.562%. (OCA St.4, page 38).

By regulation, PGW is prohibited from charging compound interest, being instead limited to charging simple interest. (52 PA Code § 56.22). Moreover, in statutory language, Pennsylvania has declared that: "no public utility shall, directly *or indirectly, by any device whatsoever*, or in anywise, demand or receive from any person, corporation, or municipal corporation a greater or less rate for any service rendered or to be rendered by such public utility than that specified in the tariffs of such public utility applicable thereto." (66 Pa. C.S. § 1303). (emphasis added). The question presented is whether, when the PUC prohibits the charging of compound interest, PGW's payment posting practices generate the same result "indirectly, by any device whatsoever."

Mr. Cummings extensively discusses his confusion on the payment posting practices I recommend as necessary to avoid charging compound interest, whether directly or "indirectly [or] by any device whatsoever."

Mr. Cummings argues that he has been informed by counsel that the Order for Reconsideration in the *SBG Management* proceeding in which the PUC considered the lawfulness of PGW's payment posting practices rendered the prior determination by the Commission that the Company's payment posting practices were not lawful "without effect." (PGW St. 10-R, page 11). In contrast, I have been informed by OCA counsel that while the Company is correct that a Petition for Reconsideration is pending before the Commission, the Commission had previously issued an Order in that matter. No stay has been placed on that Commission Order. The only effect of the Company's Petition for Reconsideration is to stay an appeal process and does not change the Commission's underlying determination that the payment posting process is unlawful. Since the resolution of this dispute does not appear to affect whether the Commission has the authority to make a determination in this proceeding, I will not comment on it further.

Mr. Cummings argues that he is "confused" about what payment posting practice I recommend to replace the Company's current practice of retiring non-interest bearing balances before applying payments against interest-bearing balances. Mr. Cummings does not explain where the ambiguity in my recommendation lies, when I state: "I recommend that the PUC. . .require PGW to apply payments against bills in the order and timing in which they were incurred." (OCA Statement 4, page 4).

Based on this recommendation, the following argument of Mr. Cummings can be seen to be a red herring, when he states "if PGW would be required to first allocate partial payments to basic charges before any payments could be posted to outstanding late payment charges, this practice would permit delinquent account customers to systematically avoid paying late payment charges. . ." (PGW St. 10-R, page 19). Mr. Cummings, in other words suggests that I recommend that PGW post customers payments so as to retire all interest-bearing balances before retiring any late payment charges irrespective of the dates the charges were imposed.

There are, in other words, Mr. Cummings offers two diametrically opposed options. On the one hand, the Company's current practice is to retire all non-interest bearing late payment charge balances before applying payments to any interest-bearing balances irrespective of the date on which the balances were incurred. On the other hand, Mr. Cummings suggests that I recommend the opposite: i.e., that the Company retire all interest-bearing balances before applying payments to any non-interest bearing balances.

In fact, I recommended neither of those two alternatives. My recommendation, instead, was "that the PUC. . .require PGW to apply payments against bills in the order and timing in which they were incurred." Charges appearing on a customer's bill in January, for example, will be retired before charges appearing on a customer's bill in April (and so on) irrespective of whether they are charges for current service or late payment charges.

Mr. Cummings argues that the PUC should not hold PGW's payment posting practices to be unlawful because the Company's payment posting practices "have been in place for many years and are embedded in PGW's billing system. . .The timeframe and costs involved – which will be passed along to customers—are significant." (PGW St. 10-R, page 20). This assertion has two problems associated with it. First, to the extent that Mr. Cummings suggests that PGW should be allowed to continue an unlawful posting of customer payments out-of-sequence to the time those bills were incurred because it might, in the opinion of the Company, cost too much to change the Company's processes and procedures, I disagree. The cost of changing an unlawful process and/or procedure does not justify continuing that unlawful process and/or procedure. Second, Mr. Cummings errs when he suggests that the costs associated with changing an unlawful practice "will be passed along to customers." Just as fines for unlawful practices are not chargeable to ratepayers, the costs associated with changing the Company's payment posting practices (to the extent the PUC finds that payment posting practice to be unlawful) should not be not chargeable to ratepayers either.

Q. WHAT DO YOU CONCLUDE?

A. I conclude that Mr. Cummings has offered no justification for posting customer payments out-of-sequence to bill balances in the order in which those bill balances were incurred. PGW's out-of-sequence payment posting practices artificially and unreasonably increase the outstanding bills owed by customers.

Part 5. Response to PGW Witness Stunder.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. The purpose of this section of my testimony is to respond to the Rebuttal Testimony of PGW Witness Gregory Stunder regarding the cost offsets I propose for PGW's Customer Responsibility Program ("CRP"). I conclude that Mr. Stunder's argument opposing the cost offsets should be rejected.

Q. PLEASE RESPOND TO MR. STUNDER'S ARGUMENT THAT ANY BAD DEBT OFFSET SHOULD BE BASED ON NET BAD DEBT RATHER THAN GROSS BAD DEBT.

A. PGW Witness Stunder argues that any bad debt offset should be based on net write-offs rather than on gross write-offs. (PGW St. 1-R, page 4). That argument should be rejected. He argues that it is more appropriate to use a net bad debt rate for purposes of calculating the bad debt offset. This argument, too, should be rejected. The purpose of the adjustment I propose is to prevent the over-recovery of universal service costs for active CRP customers. I am not proposing to recalculate the Company's uncollectible expense or uncollectible reserve. The use of a net write-off figure would reduce the universal service cost adjustment by an amount of revenue recovered from customers that have long since ceased to be active PGW customers. My adjustment, however, relates to the changes in revenue between *active* confirmed low-income (and non-low-income) customers and *active* CRP participants. To reach into the inactive customer base to reduce that over-recovery of universal service costs from active CRP participants would be inappropriate. The adjustment that I propose based on gross write-offs should be approved.

Q. PLEASE RESPOND TO MR. STUNDER'S ARGUMENT THAT IF A BAD DEBT OFFSET IS APPLIED WHEN CRP PARTICIPATION INCREASES, A CONVERSE ADJUSTMENT SHOULD BE MADE WHEN CRP PARTICIPATION DECREASES.

A. PGW witness Stunder argues that if the Commission approves a bad debt offset when CRP participation increases, PGW should be allowed to add an allowance to the Universal Service Surcharge if CRP enrollment goes down. (PGW St. 1-R, page 10). Mr. Stunder recommends that if the CRP participation level drops below the base figure, a credit should be added to the CRP credit. That recommendation is not well-grounded for several reasons.

First, the adjustment to the Universal Service Surcharge that I propose is to prevent the double-collection of base rate expenses through the Rider, not to adjust the level of bad debt included in base rates in any fashion. No double-collection occurs when the actual CRP participation is fewer than the base number. Making this adjustment a two-way adjustment would not prevent the over-collection of bad debt; it would instead change the level of debt expense included in the underlying base rates. Making that change would violate fundamental principles prohibiting single-issue ratemaking. It would not be possible to make that single adjustment without also considering the full-range of impacts on PGW costs and revenues to determine the net impact on remaining ratepayers.

Second, allowing the adjustment to work as a two-way adjustment would create the wrong incentive for PGW relative to CRP. PGW should be provided every incentive to keep low-income customers in the CRP. Making this adjustment a two-way adjustment removes that incentive. PGW would be indifferent as to whether or not customers stay in CRP. If customers leave CRP and move back into the residential customer population, PGW would simply receive an increase in its bad debt expense.

Finally, when customers move out of CRP, they do not necessarily move back into PGW's "confirmed low-income" population. A customer may leave CRP because he or she leaves the service territory. A customer may leave CRP because he or she is no longer low-income. When a customer becomes a CRP participant, that customer *must* have come from PGW's underlying low-income customer base. The opposite, however, is not true. When a customer leaves CRP, that customer may, but need not necessarily, be moving back into the PGW low-income customer base (or even back into the PGW customer base at all). Accordingly, making the adjustment I propose two-way is inappropriate.

In sum, my proposed adjustment is to prevent the double-collection of bad debt. The adjustment does not work in the opposite direction.

Q. PLEASE RESPOND TO MR. STUNDER'S ARGUMENT THAT THE BAD DEBT AND WORKING CAPITAL OFFSETS SHOULD BE BASED ON MULTI-YEAR AVERAGES.

A. PGW witness Stunder argues that any bad debt offset should be based on a five-year average rather than on the most current year of data. (PGW St. 1-R, page 4). It would also be inappropriate to use the five-year average difference between the confirmed low-income write-off and residential write-off as suggested by Mr. Stunder. To do this would be to generate a mismatch between the number of CRP participants and the calculation of the offset. If one were to use a five-year average for calculating the write-off, it would thus be necessary to match that offset by using the five-year average of CRP participants, as well, to set the base number of CRP participants over which the offset would be applied. One cannot simply pick and choose the numbers which yield the best result at a particular moment.

In addition to representing a mismatch, using the five-year average differential hides the deepening difference between the write-off percentage for the confirmed low-income participation and the write-off percentage for the residential population as a whole. Using the data reported each year in the annual BCS report, we see that the differential was nearly 200% higher in 2015 than it was in 2011 (15.6% vs. 7.93%). What Mr. Stunder does not acknowledge in his proposal to use a "five-year average" (i.e., 2011 – 2015) is that, within that five years, 2012 was higher than 2011; 2013 was higher than 2012; continuing on through 2015 being higher than 2014. As the data below shows, what Mr. Stunder did was simply to select the time frame which generated the most favorable results for PGW.

	2011	2012	2013	2014	2015
Residential write-off	7.99%	9.10%	10.40%	9.00%	10.00%
Low-income write-off	15.92%	18.00%	24.80%	23.50%	25.60%
Difference	7.93%	8.90%	14.40%	14.50%	15.60%

Source: BCS Annual Report on Universal Services Programs and Collections Performance

Q. PLEASE RESPOND TO MR. STUNDER'S OPPOSITION TO IMPOSING A BAD DEBT AND WORKING CAPITAL ADJUSTMENT IN GENERAL.

A. Mr. Stunder bases his opposition to a bad debt and working capital offset on several reasons. First, he asserts that there is no correlation between PGW's CRP participation level and PGW's bad debt expenses. (PGW St. 1-R, page 1). His entire argument (PGW St. 1-R, pages 1 – 6) is based on his assertion that "what Mr. Colton is testifying about is. . .whether PGW's overall bad debt expense changes, on a pro forma basis (i.e., all other things equal and not considering any other factors) when a customer that was being billed as a regular residential customer moves from that category to the CRP category, by enrolling in the program, and, if so, by how much." (PGW St. 1-R, page 6).

That statement by Mr. Stunder is incorrect. The purpose of the bad debt offset for the CAP program is not to reflect the Company's overall bad debt expense. Nor is the purpose of the bad debt offset to reflect changes to the Company's bad debt expense associated with changes in the total number of low-income customers, whether those customers have been identified ("confirmed") or not. The purpose of the bad debt offset is to allow the Commission to identify the net universal service program cost that should be collected from residential ratepayers through the universal service program surcharge. Whether or not the Company's total number of low-income customers is increasing or decreasing is irrelevant to that determination.

Mr. Stunder characterizes my testimony as recommending an adjustment to the Company's allowance for bad debt expense included in its base rates. Mr. Stunder asserts that I seek to "effectively modify PGW's bad debt recovery allowed in base rates." (PGW St. 1-R, page 9). That characterization is also incorrect. My testimony makes no recommendation at all concerning the "bad debt recovery allowed in base rates." My testimony merely documents that, as CRP participation increases above the base participation number, and as PGW responds to that increase by increasing the dollar recovery through the USEC Rider, it would over-collect costs without making an adjustment to the CRP cost recovery. This is doing no more than what the Pennsylvania Public Utility Commission ("PUC") said should be done in its CAP Policy Statement. (Pennsylvania PUC, CAP Policy Statement, Section 69.266, 52 Pa. Code §69.266 (Supp. 389, April 2007).

Q. IS THERE ANOTHER ASPECT OF MR. STUNDER'S REBUTTAL TESTIMONY TO WHICH YOU WISH TO RESPOND.

A. Yes. Mr. Stunder asserts that the higher incidence, level and age of confirmed low-income arrears does *not* result in a higher carrying cost (or "working capital") to PGW that could be mitigated by moving a portion of the CRP participant's bill (i.e., the CAP Credit) to a population of customers that has a lower incidence, level and age of arrearages. (PGW St. 1-R, page 9). This argument is in direct conflict with the argument of Mr. Cummings, in opposition to my proposals regarding Budget Billing. In contrast to Mr. Stunder who asserts that there is no additional carrying costs with unpaid bills, Mr. Cummings stated, "the question becomes how long will the customer have to pay off that arrears? Depending on the level of arrears, the amount could be significant means that:. . .the Company will have to bear the cost of not receiving that revenue." (PGW St. 10-R, page 35). In contrast to Mr. Stunder, who asserts that there is no additional carrying costs with unpaid bills, Mr. Cummings states: "the more debt the Company is required to incur without receiving payment for service rendered, the more stress this places on the cash on hand available to pay for operations and shortfalls in the capital improvement program." (PGW St. 10-R, page 38). On this point, Mr. Cummings and I are in agreement. The higher incidence, level and age of arrears carried by confirmed low-income customers will impose a higher carrying cost on the Company.

That level of cost is embedded in rates at the time of a rate case. That level of cost embedded in rates is based on costs associated with the number of customers who are confirmed low-income (and not participating in CRP) at the time of the rate case. As the incremental number of CRP participants expands beyond that base number, and part of the bills of those low-income customers is transferred to better paying customers, since CRP cost recovery increases to reflect that increase in CRP participation, there will be a double-recovery of those carrying costs unless there is a corresponding adjustment downward to that specific component of costs through the offsets which I propose.

Part 6. Response to I&E Witness Maurer.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the Rebuttal Testimony of I&E Witness Rachel Maurer as it relates to PGW's LIURP program. Ms. Maurer asserts that the LIURP budget should be set exclusively in the pending proceeding regarding Company's proposed Universal Service and Energy Conservation Plan ("USECP"). She asserts that the LIURP budget is set "based on the needs present in PGW's service territory, an issue which has not been evaluated in this proceeding but which is currently being evaluated in the USECP proceeding." (I&E St. 1R, pages 4 – 5).

My recommendation notes that an increase in PGW's base distribution rates will *change* the needs that would exist in the absence of the base rate increase. Even though the pending USECP proceeding for PGW may be considering the total LIURP needs for PGW, it is not considering, nor could it capture, the incremental increase in need resulting from an increase in base rates. A consideration of how to address that incremental increase in need can only be determined in this base rate proceeding.

Any percentage increase in the LIURP budget approved as a result of this base rate proceeding can then be easily incorporated into the LIURP budget that would otherwise be adopted in the PGW USECP review.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2017-2586783
Philadelphia Gas Works	:	

SCHEDULES ACCOMPANYING THE

SURREBUTTAL TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

June 22, 2017

Schedule RDC-1SR
(Revised Schedule RDC-1)

PGW

	A	B	C	D	E	F	G	H
Month	Bill for Current Service	Payment Received	Late Payment Charge	Payment Applied to Unpaid Bill for Current Service	Payment Applied to Unpaid Late Charge	Cumulative Unpaid Bill for Current Service	Cumulative Unpaid Late Payment Charge	Cumulative Unpaid Balance
1-Jan	$350.00		---			$350.00	$0.00	$350.00
1-Feb	$300.00		$5.25			$650.00	$5.25	$655.25
1-Mar	$200.00		$9.75			$850.00	$15.00	$865.00
1-Apr	$100.00		$12.75			$950.00	$27.75	$977.75
10-Apr		($50.00)		$22.25	$27.75	$927.75	$0.00	$927.75
1-May	$60.00		$13.92			$987.75	$13.92	$1,001.67
10-May		($50.00)		$36.08	$13.92	$951.67	$0.00	$951.67
1-Jun	$60.00		$14.27			$1,011.67	$14.27	$1,025.94
1-Jul	$60.00		$15.17			$1,071.67	$29.45	$1,101.12
1-Aug	$60.00		$16.07			$1,131.67	$45.52	$1,177.19
1-Sep	$60.00	($50.00)	$16.97	$4.48	$45.52	$1,187.19	$16.97	$1,204.17
10-Sep		($50.00)		$33.03	$16.97	$1,154.17	$0.00	$1,154.17
1-Oct	$75.00		$17.31			$1,229.17	$17.31	$1,246.48
10-Oct		($200.00)		$182.69	$17.31	$1,046.48	$0.00	$1,046.48
1-Nov	$75.00		$15.70			$1,121.48	$15.70	$1,137.18
10-Nov		($150.00)		$134.30	$15.70	$987.18	$0.00	$987.18
1-Dec	$200.00		$14.81			$1,187.18	$14.81	$1,201.98

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2017-2586783
Philadelphia Gas Works	:	

APPENDIX A ACCOMPANYING THE

SURREBUTTAL TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF THE
OFFICE OF CONSUMER ADVOCATE

June 22, 2017

Philadelphia Gas Works

Customer Service Representative
New Hire Training

Easy Way Budget Plan

Easy Way Payment Amount

*How the **Easy Way Budget** payment amount is determined:*

$$\text{Monthly Payment Amount} = \left(\sum \text{Previous 12 months Usage} + \text{Total Account Balance} \right) / 12$$

- BCCS adds the previous 12 months of gas usage, plus the Total Account Balance, then divides by 12
- An account requires 9 months (270 days) to calculate a Suggested Payment Amount
- If insufficient history is available, a flat rate is used:
  - Residential Non-Heat: $ 75.00
  - Residential Heat: $ 190.00

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Roger D. Colton, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement No. 4-S, are true and correct and that I expect 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).

Signature: ______________________
Roger D. Colton

Consultant Address: Fisher, Sheehan, and Colton
34 Warwick Road
Belmont, Ma 02478

DATED: June 22, 2017
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OCA STATEMENT NO. 5-R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2017-2586783**
	:	
Philadelphia Gas Works	:	

REBUTTAL TESTIMONY

OF

BARBARA R. ALEXANDER

Barbara Alexander Consulting LLC

ON BEHALF OF THE

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 9, 2017

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. My name is Barbara R. Alexander. I am the sole member of Barbara Alexander Consulting LLC. My address is 83 Wedgewood Dr., Winthrop, ME 04364. I appear in this case as a witness on behalf of the Pennsylvania Office of Consumer Advocate (OCA).

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A. No.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE ON THE ISSUES YOU ADDRESS IN YOUR TESTIMONY.

A. I opened my consulting practice in March 1996, after nearly ten years as the Director of the Consumer Assistance Division of the Maine Public Utilities Commission. While there, I testified as an expert witness on consumer protection, customer service and low-income issues in rate cases and other investigations before the Commission. My consulting practice is directed to consumer protection, customer service and low-income programs and policies relating to the regulation of the telephone, electric and gas industries. In particular, I have focused on the changes in policies and procedures required by state regulation in the transition to retail competition. My recent clients include state utility consumer advocates in Pennsylvania, New Jersey, Maine, Washington, Delaware, California, and AARP (in Montana, Illinois, New Jersey, the District of Columbia, Mississippi, Maryland, Delaware, and Maine). Among my areas of expertise are policies and programs related to Default Service and related issues concerning the transition to retail competition for both the electric and natural gas industries.

I am a graduate of the University of Michigan (B.A. 1968) and the University of Maine School of Law (J.D. 1976).

I have been involved in the implementation of retail electric and natural gas competition in Pennsylvania on behalf of the OCA for several years. I have filed testimony before the Commission concerning consumer education, consumer protection, supplier licensing, customer enrollment, default service, and Code of Conduct issues for the OCA in the electric restructuring proceedings in 1997 and 1998, in the natural gas restructuring cases beginning in 1999. With respect to issues relating to retail market competition policies, I have filed testimony on behalf of the OCA on policies that should govern the planning and acquisition of Default Service for residential customers and on proposals to adopt Purchase of Receivables (POR) programs, Customer Referral Programs, and other "retail market enhancement" programs for all of the Pennsylvania electric and natural gas utilities. My updated CV with the specific identification of relevant proceedings is attached as Exhibit BA-1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I am filing Rebuttal Testimony on behalf of the OCA concerning certain recommendations by Mr. Anthony Cusati, III, on behalf of the Retail Energy Supply Association (RESA). In his Direct Testimony Mr. Cusati recommends several changes to Philadelphia Gas Works' (PGW) Purchase of Receivables (POR) program, and questions PGW's allocation of uncollectible and other costs between distribution and supply services. In addition, Mr. Cusati recommends that PGW eliminate the switching fee that is charged to a Natural Gas Supplier (NGS) when a PGW customer changes suppliers.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. In response to Mr. Cusati's Direct Testimony, I recommend the following:

- The Commission should reject Mr. Cusati's claim to restructure the POR program by either eliminating the Administrative Discount or the Uncollectible Discount since both of these provisions of the POR were negotiated and approved by the Commission based on a collaborative settlement that was approved in February 2014;
- Any change to the Uncollectible Discount in the POR should be based on the final order in this base rate case and implemented in the POR and included as the Merchant Function Charge as part of the Price to Compare;
- There is no evidence presented by Mr. Cusati to support his suggestion that PGW has not properly allocated costs between the distribution and supply functions or that the Price to Compare does not represent the required costs; and
- The Commission should adopt Mr. Cusati's recommendation to eliminate PGW's switching fee.

Q. PLEASE EXPLAIN THE PURPOSE OF A POR PROGRAM.

A. The POR program requires PGW (and other Natural Gas Distribution Companies (NGDC)) to purchase the residential and small commercial customer receivables of NGSs. As a result, the NGDC then bills and collects for the NGS charges on the NGDC bill and uses the approved collection policies applicable to regulated NGDC rates to collect the NGS charges. Under these programs, the NGDC can include the NGS charges in the amount overdue on a termination notice and terminate service for failure to pay the

NGS and the regulated NGDC charges. All the electric and natural gas distribution companies in Pennsylvania operate an approved POR program.

Q. WHAT CHANGES TO PGW'S CURRENT POR PROGRAM DOES MR. CUSATI RECOMMEND?

A. Mr. Cusati objects to the discount rate in effect for PGW's purchase of NGS receivables and seeks to either substantially lower or eliminate any discount rate. He compares the PGW Uncollectibles Discount and Administrative Discount to other NGDCs in Pennsylvania. PGW purchases NGS receivables at a rate of 6.68%, composed of a 4.68% Uncollectibles Discount and a 2% Administrative Discount. According to Mr. Cusati, this is a high discount rate charged by PGW to purchase NGS receivables compared to other NGDCs and contributes to the lack of NGS participation in the customer choice program. Mr. Cusati also supports his recommendations for reform by alleging that PGW does not properly allocate uncollectible costs between its regulated distribution services and the natural gas supply default service provided to customers who do not shop or are not otherwise served by an NGS.

Q. IN MAKING HIS RECOMMENDATIONS TO CHANGE OR ELIMINATE THE PGW DISCOUNT RATE CHARGED FOR THE PURCHASE OF RECEIVABLES, DID MR. CUSATI ACKNOWLEDGE OR DISCUSS THE HISTORY OF PGW'S POR PROGRAM AND THE CURRENT DISCOUNT RATE?

A. No.

A. PLEASE DESCRIBE THE PGW POR PROGRAM AND ITS PROCEDURAL HISTORY.

A. As a result of a PGW petition for a base rate increase in 2009, a Joint Petition for Settlement was submitted and approved by Commission Order on July 29, 2010 in Docket No. R-2009-2139884. As part of this Settlement, PGW agreed to conduct a collaborative to identify the system and billing system changes required to implement a POR program and negotiate the terms of such a program. The collaborative continued through 2013. On August 30, 2013, certain parties submitted a Joint Petition for Settlement and Statements in Support of Settlement. While several parties did not sign the Settlement agreement, those parties stated that they did not oppose the Settlement. Under the terms of this Settlement, PGW agreed to implement a Choice related customer education program and implement a POR program, as well as utility consolidated billing, within 18 months after Commission approval. In addition, certain electronic data exchange capabilities would be implemented within this same 18-month period after Commission approval. The Settlement[1] set forth the key provisions of the POR program and the methodology for the recovery of the costs for these system changes:

- A customer education program for $1,000,000, including customer education mailings about choice and NGS offers will be implemented by PGW, 50% of the costs to be paid for by the participating NGSs through a component of the POR Administrative Discount and 50% recovered from PGW customers;
- Incremental costs for consolidated billing and a POR program estimated at $1,658,000, to be recovered with a one-time fee from NGSs equal to 10% of these costs

[1] The following summary of the Settlement provisions was taken from the Administrative Law Judge's Recommended Decision in Docket R-2008-2073938 and R-2009-2139884 (January 29, 2014).

recovered through a component of the POR Administrative Discount and the remaining 90% recovered from PGW ratepayers;

- Electronic Data Interexchange (EDI) system upgrades to be recovered from NGSs with a one-time payment of $35,000 and annual billing system O&M costs recovered for the first three years of the POR program through the POR Administrative Discount
- Annual EDI transactional fees to be recovered from the NGSs for the initial three years through the POR Administrative Discount with a cap of $65,000 if the average annual customer shopping level does not exceed 50,000 customers with additional fees if the shopping level exceeds this number;
- The Administrative Discount for the above items was established at 2% to remain in effect until the costs identified for these upgrades and billing system changes are recovered in full.
- "The Administrative Discount will be set at the level necessary to recover any continuing administrative costs related to the POR program not addressed in this Settlement subject to commission approval and consistent with 52 Pa. Code Sec. 62.224 and other continuing administrative costs such as EDI transactional fees incurred after the time period set forth in this Settlement. In order to request recovery of the continuing administrative costs not addressed in the Settlement or after the time period set forth in this Settlement, PGW shall provide notice to all Parties of any such request/filing if the request/filing is outside the context of a 1307(f) or 1308(d) proceeding."
- An Uncollectible Discount will be charged to NGSs. This discount is "related to the uncollectible rate for supply service customers and will be calculated consistent with

the Commission's regulations at 52 Pa. Code Sec. 62.224, including risk and cost differences among PGW's customer classes. Currently the Uncollectible Discounts are 4.68%--residential, 0.28%--commercial, and 0.30%--industrial."

Q. DID THE COMMISSION APPROVE THIS SETTLEMENT?

A. Yes. The Commission issued an Order on February 20, 2014 approving the Recommended Decision. As a result, given the time frame set forth in the settlement, PGW was required to implement the customer education program and the system changes required to implement the POR and EDI protocols within 18 months, or by August-September 2015.

Q. PLEASE PROVIDE YOUR COMMENTS ON MR. CUSATI'S CONCERNS ABOUT THE POR DISCOUNT APPLICABLE TO PGW's POR PROGRAM.

A. First, assuming that the described customer education and PGW system and billing changes were implemented as required by this Settlement by late 2015 (18 months after the Commission's approval), Mr. Cusati provides no factual basis to support his recommended changes to these agreed upon terms. These provisions have only been in effect for about 18 months. Nor has Mr. Cusati raised concerns about PGW's implementation of these provisions. Second, the NGSs that agreed with this settlement have had the opportunity to solicit residential and commercial customers since late 2015. Mr. Cusati's attempt to link the design of the POR program to the lack of NGS offers and/or lack of customer shopping activity in PGW's service territory[2] is not supported. For example, it is entirely possible that the low cost of natural gas supply provided by

[2] Direct Testimony of Mr. Anthony Cusati, III (RESA Statement No. 1), at 3 lines 1-15 identifies his opinion about the "barriers to competition" in the PGW choice program, including the high POR discount rate.

PGW has hampered the ability of an NGS to provide a product that is supported by PGW's residential customers, many of whom are low income and for whom price would likely be a significant factor.

Q. ON WHAT GROUNDS SHOULD THE UNCOLLECTIBLE DISCOUNT BE CHANGED?

A. It would be appropriate to reflect the most current uncollectible rate associated with supply service in the POR program. I would agree with using the most current rate. Once this rate is approved, it should be reflected in the POR and also factored into the Price to Compare as the Merchant Function Charge.

Q. SHOULD THE ADMINISTRATIVE DISCOUNT BE CHANGED AT THIS TIME AS RECOMMENDED BY MR. CUSATI?

A. No. This Administrative Discount was established to reflect estimated costs to implement the consumer education, EDI upgrades, consolidated billing, and POR program as set forth in the Settlement approved in early 2014. This cost recovery is assessed on NGSs participating in the POR program. If there are no or only a few NGSs actually participating in the POR program, those costs have not yet been recovered and it would not be appropriate to excuse NGSs from those agreed upon fees.

Q. DO YOU HAVE ANY COMMENT ON MR. CUSATI'S ALLEGATION THAT PGW'S ALLOCATION OF UNCOLLECTIBLE COSTS BETWEEN DISTRIBUTION AND SUPPLY SERVICE HAS NOT BEEN PROPERLY IMPLEMENTED?

A. My only comment is that Mr. Cusati or any other party has the opportunity in this rate case to explore this issue and present a different allocation method than that used by

PGW. There is no evidence presented by Mr. Cusati that would suggest that PGW has not followed the Commission's regulations. Furthermore, Mr. Cusati's apparent assumption that PGW has not implemented a Merchant Function Charge is not correct.[3] According to PGW's Tariff, PGW's Price to Compare includes a Merchant Function Charge equal to the same 4.68% Uncollectibles Discount included in the POR program.[4]

Q. IS MR. CUSATI'S CONCERN ABOUT PGW'S GAS PROCUREMENT CHARGE IN TERMS OF ITS IMPACT ON CUSTOMER SHOPPING APPROPRIATE?

A. No. The apparent attempt by Mr. Cusati to assume that the Gas Procurement Charge is the key factor in the NGS's ability to compete fails to recognize that it is the Price to Compare, of which the Gas Procurement Charge is only one of several factors, that is the controlling price.[5] PGW's tariff states that the Price to Compare is composed of the Sales Service Charge, Gas Adjustment charge, the Merchant Function Charge and the Gas Procurement Charge and the current Price to Compare for residential customers is \$0.52160 per Ccf.[6] Therefore, it appears that PGW has included the proper type of charges in its Price to Compare. If there is any further need to explore these components to the Price to Compare or their calculation, it is Mr. Cusati's obligation to pursue those concerns through discovery and testimony instead of making suggestions of noncompliance without any corroborating evidence.

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[3] Direct Testimony of Mr. Anthony Cusati, III (RESA Statement No. 1), at 9, lines 14-18 relies on a PGW data response to suggest that PGW has not properly developed an Merchant Function Charge.
[4] PGW, Supplement No. 101 to Gas Service Tariff, Pa P.U.C. No. 2, Nineteenth Revised Page No. 78 (eff. March 1, 2017).
[5] Direct Testimony of Anthony Cusati, III (RESA Statement No. 1), at 10-11. Mr. Cusati's testimony focuses on the Gas Procurement Charge of \$0.00400 and compares this charge to other Pennsylvania NGDCs, but that is not the proper comparison for shopping comparisons. Rather, the proper comparison is the Price to Compare.
[6] PGW, Supplement No. 101 to Gas Service Tariff, Pa P.U.C. No. 2, Nineteenth Revised Page No. 78 (eff. March 1, 2017).

Q. DO YOU HAVE ANY COMMENT ON MR. CUSATI'S RECOMMENDATION TO ELIMINATE THE SWITCHING FEE IMPOSED BY PGW ON SUPPLIERS?

A. Yes. I agree with Mr. Cusati that this type of switching fee is not appropriate, has not been implemented at other NGDCs, and should be eliminated.

Q. DOES THIS COMPLETE YOUR TESTIMONY AT THIS TIME?

A. Yes.

Exhibit BA-1

Barbara R. Alexander
Consumer Affairs Consultant

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The Energy Project (Washington)
The Public Utility Project of New York
Delaware Division of Public Advocate
Maryland Office of People's Counsel
Citizens' Utility Board (Illinois)
The Utility Reform Network (TURN) (California)
Oak Ridge National Laboratory, Department of Energy
COPE No. 378 (British Columbia, Canada)
Massachusetts Ratepayer Advocate (Attorney General)

Areas of Expertise:

- Default Service, Consumer Protection, Service Quality, and Universal Service policies and programs associated with the alternative rate plans and mergers;
- Consumer Protection and Service Quality policies and programs associated with the regulation of competitive energy and telecommunications providers;
- The regulatory policies associated with the regulation of Credit, Collection, Consumer Protection, Low Income, and Service Quality programs and policies for public utilities;
- Rate design and pricing policies applicable to residential customers; and
- Advanced Metering Infrastructure and Grid Modernization costs and benefits, time-based pricing proposals, and performance standards.

Prior Employment

DIRECTOR

1986-96

Consumer Assistance Division
Maine Public Utilities Commission *Augusta, Maine*

One of five division directors appointed by a three-member regulatory commission and part of commission management team. Direct supervision of 10 employees, oversight of public utility consumer complaint function, appearance as an expert witness on customer services, consumer protection, service quality and low income policy issues before the PUC. Chair, NARUC Staff Subcommittee on Consumer Affairs.

SUPERINTENDENT

1979-83

Bureau of Consumer Credit Protection
Department of Professional and Financial Regulation *Augusta, Maine*

Director of an independent regulatory agency charged with the implementation of Maine Consumer Credit Code and Truth in Lending Act. Investigations and audits of financial institutions and retail creditors, enforcement activities, testimony before Maine Legislature and U.S. Congress.

Education

JURIS DOCTOR

1973-76
University of Maine School of Law *Portland, Maine*

Admitted to the Bar of the State of Maine, September 1976. Currently registered as "inactive."

B.A. (WITH DISTINCTION) IN POLITICAL SCIENCE 1964-68
University of Michigan *Ann Arbor, Michigan*

Publications and Testimony

"How to Construct a Service Quality Index in Performance-Based Ratemaking", The Electricity Journal, April, 1996

"The Consumer Protection Agenda in the Electric Restructuring Debate", William A. Spratley & Associates, May, 1996

Direct Testimony on behalf of the Telecommunications Workers Union, Telecom Public Notice 96-8, Price Cap Regulation and Related Issues, Canadian Radio-Television and Telecommunications Commission, September, 1996. [Analysis of and recommendations concerning the need to regulate service quality in move to price cap regulation]

Direct Testimony on behalf of Public Counsel Section, Office of Attorney General, Docket No. UE-960195, Application by Puget Sound Power and Light Co. And Washington Natural Gas Co. For Approval of Merger), Washington Utilities and Transportation Commission, September, 1996 [Need for and design of a Service Quality Index for both electric and gas business units as part of a multi-year rate plan]

Consumer Protection Proposals for Retail Electric Competition: Model Legislation and Regulations", Regulatory Assistance Project, Gardiner, ME, October, 1996

Direct and Rebuttal Testimony on behalf of the Citizens Utility Board (IL), Docket 96-0178, Illinois Commerce Commission, CUB v. Illinois Bell Telephone Co., January 22, 1997; July, 1997. [Analysis of recent service quality performance and recommendations for changes in current service quality performance plan]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate, Restructuring Proceedings before the Pennsylvania PUC: PECO Energy; Pennsylvania Power and Light Co.; GPU Energy; Duquesne Light Co.; West Penn Power Co., UGI-Electric, Pennsylvania Power Co., Pike County Light and Power Co. (1997 and 1998). [Specific consumer protection, consumer education and supplier-utility-customer interactions necessary for move to electric restructuring]

"The Transition to Local Telecommunications Competition: A New Challenge for Consumer Protection", Public Counsel Section, Washington Attorney General, October, 1997. [Reprinted in part in NRRI Quarterly Bulletin, Vol. 19, N0.1, Spring, 1998]

Direct and Surrebuttal Testimony on behalf of the New Jersey Division of Ratepayer Advocate, Restructuring Proceedings before the New Jersey Board of Public Utilities: Public Service Electric and Gas, Jersey Central (GPU), Rockland Electric Co., Atlantic Electric Co.,March-April, 1998. [Phase-in and customer enrollment, Code of Conduct, consumer protections associated with the provision of Provider of Last Resort service]

Oppenheim, Gerald (NCLC) and Alexander, Barbara, Model Electricity Consumer Protection Disclosures, A Report to the National Council on Competition and the Electric Industry, April 1998.

Direct and Reply Testimony on behalf of the Maryland Office of People's Counsel, Investigation into Certain Unauthorized Practices (Slamming and Cramming), Case. No. 8776, before the Maryland Public Service Commission, 1998 and 1999.

Direct Testimony on behalf of the Maryland Office of People's Counsel, Universal Service Issues, Case No. 8745, before the Maryland Public Service Commission, November 20, 1998.

"Cramming is the Last Straw: A Proposal to Prevent and Discourage the Use of the Local Telephone Bill to Commit Fraud," NRRI Quarterly Bulletin, Fall. 1998.

Alexander, Barbara, Retail Electric Competition: A Blueprint for Consumer Protection, U.S. Department of Energy, Office of Energy and Renewable Energy, Washington, D.C., October 1998.

Alexander, Barbara, "Consumer Protection Issues in Electric Restructuring for Colorado: A Report to the Colorado Electricity Advisory Panel," on behalf of the Colorado Office of Consumer Counsel, February 1999.

Testimony on Proposed Interim Rules (Consumer Protection, Customer Enrollment, Code of Conduct, Supplier Licensing) on behalf of the New Jersey Division of Ratepayer Advocate before the New Jersey BPU, May 1999.

Direct Testimony on behalf of AARP, West Virginia PUC Investigation into Retail Electric Competition (consumer protection, universal service, Code of Conduct), June 15, 1999.

Direct and Surrebuttal Testimony on behalf of the Pennsylvania OCA, Natural Gas Restructuring proceedings (8 natural gas utilities): consumer protection; consumer education; code of conduct, before the Pennsylvania PUC, October 1999-April 2000.

Comments on Draft Rules addressing Slamming and Cramming (Docket No. RMU-99-7) on behalf of the Iowa Office of Consumer Advocate, before the Iowa Utilities Board, October 1999.

Alexander, Barbara, "Door to Door Sales of Competitive Energy Services," LEAP Letter, January-February 2000 [Wm. A. Spratley & Associates, Columbus, OH]

Direct Testimony on behalf of the Maine Office of Public Advocate, Central Maine Power Company Alternative Regulation Plan [Docket 99-666] on service quality issues, before the Maine PUC, May 2000.

Direct Testimony on behalf of AARP, Universal Service Programs and Funding of low-income programs for electric and natural gas service, before the New Jersey Board of Public Utilities, Docket No. EX00020091, July, 2000.

Comments (on behalf of NASUCA and AARP) on Uniform Business Practices Reports, May and September 2000.

Direct Testimony on behalf of the Pennsylvania OCA, Verizon-Pennsylvania Structural Separation Plan on service quality, customer service and consumer protection issues [Docket No. M-00001353] before the Pennsylvania PUC, October 2000.

Direct and Rebuttal Testimony on behalf of the Maine Office of Public Advocate, Verizon-Maine Alternative Form of Regulation on service quality issues [Docket No. 99-851] before the Maine PUC, January and February 2001.

Direct and Rebuttal Testimony on behalf of the Citizens Utility Board, Nicor Gas Customer Select Pilot Program, on consumer protection and regulation of competitive natural gas suppliers [Docket Nos. 00-0620 and 00-0621] before the Illinois Commerce Commission, December 2000 and February 2001.

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate on consumer protection and service quality issues associated with the pending merger between GPU Energy and FirstEnergy, before the Pennsylvania PUC, Docket Nos. A-110300F0095 and A-110400F.0040 (February and March, 2001)

Direct and Surrebuttal Testimony on behalf of the New Jersey Division of Ratepayer Advocate on consumer protection, service quality, and universal service issues associated with the pending merger between GPU Energy and FirstEnergy, before the New Jersey Board of Public Utilities, Docket No. EM00110870 (April 2001).

Alexander, Barbara, "Default Service: What Should be Done When the Experiment Goes Awry?" (April 2001)

Responsive Testimony on behalf of the New Jersey Division of Ratepayer Advocate on service quality issues associated with a Plan for Alternative Regulation by Verizon-New Jersey, before the New Jersey Board of Public Utilities, Docket No. To01020095 (May 2001).

Direct and Surrebuttal Testimony on behalf of the New Jersey Division of Ratepayer Advocate on service quality, consumer protection, and universal service issues associated with the pending merger between Conectiv and Pepco, before the New Jersey Board of Public Utilities, BPU Docket No. EM101050308 (September and November 2001).

Direct Testimony on behalf of the Public Interest Advocacy Centre (and others) on service quality regulation in the context of price cap rate plans, before the Canadian Radio-Television and Telecommunications Commission, Docket No. CRTC 2001-37 (August 2001).

Alexander, Barbara, "Default Service: What Should be Done when the Experiment Goes Awry?" An Update to the April 2001 paper (October 2001).

Expert Witness Report, Sparks v. AT&T and Lucent Technologies, October 2001 [National class action lawsuit concerning the leasing of residential telephones]

Expert Witness Report, Brown v. Reliant Energy, November 2001 [Claim of negligence in death of elderly resident after disconnection of electric service]

Comments on behalf of the Pennsylvania Office of Consumer Advocate on consumer protection, disclosure, and education program Guidelines applicable to local exchange telephone competition, before the Pennsylvania PUC, January 2002.

Alexander, Barbara, "Default Service for Retail Electric Competition: Can Residential and Low-Income Customers be Protected When the Experiment Goes Awry?" (April 2002) Available at www.ncat.org/liheap/pubs/barbadefault3.doc

Comments on behalf of AARP before the California PUC on CARE (low income program) concerning Rapid Deployment, Rulemaking 01-08-027 (2001 and 2002).

Comments on behalf of Citizens Utility Board before the Illinois Commerce Commission on Proposed Rule to Allow the Use of Credit Scoring to Determine When a Deposit May be Required, ICC Docket No. 01-0644, June 24, 2002.

Comments on behalf of Consumer Groups before the Texas PUC on Rulemaking Proceeding to Amend Requirements for Provider of Last Resort Service, Docket No. 25360, June 28, 2002.

Direct Testimony on behalf of the New Jersey Division of Ratepayer Advocate before the Board of Public Utilities on Joint Petition of New Jersey-American Water Co. and Thames Water Aqua Holding for Approval of a Change in Control of New Jersey-American Water Co., Docket No. WM01120833, July 18, 2002.

Alexander, Barbara, Consumer Education Programs to Accompany the Move to Retail Electric Competition, prepared for the National Association of State Utility Consumer Advocates (NASUCA), July 2002. Available at www.nasuca.org

Direct Testimony on behalf of New Jersey Division of Ratepayer Advocate before the Board of Public Utilities on Petition of NUI Utilities d/b/a Elizabethtown Gas Co. for Approval of Increased Base Tariff Rates and Charges for Gas Service, Docket No. GR02040245, September 6, 2002.

Alexander, Barbara, An Analysis of Residential Energy Markets in Georgia, Massachusetts, Ohio, New York, and Texas, prepared for the National Energy Affordability and Accessibility Project, National Center for Appropriate Technology, September 2002. Available at www.ncat.org/neaap

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC on Philadelphia Gas Works' Gas Restructuring Filing, Docket No. M-00021612, September 2002 and November 2002.

Direct Testimony on behalf of Consumer Groups before the Texas PUC on Notice and Request of Mutual Energy CPL and Mutual Energy WTU for Approval of Changes in Ownership and Affiliation, Docket No. 25957, October 15, 2002.

Comments on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Advanced Notice of Proposed Rulemaking for Revision of Chapter 54 Pertaining to Electric Generation Supplier Licensing, Docket No. L-00020158, March 5, 2003.

Direct and Surrebuttal Testimony on behalf of the New Jersey Division of Ratepayer Advocate before the New Jersey BPU on Jersey Central Power & Light's base rate case proceeding (service quality and reliability of service), Docket No. ER02080506, ERT02080507, and ER02070417, December 2002 and February 2003.

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Comments and Reply Comments on behalf of New Jersey AARP before the New Jersey Board of Public Utilities on Basic Generation Service, Docket No. EO03050394 (August and September 2003).

Direct and Surrebuttal Testimony on behalf of the New Jersey Division of the Ratepayer Advocate before the New Jersey BPU on rate case proceedings for New Jersey-American Water Co., Elizabethtown Water Co., and Mt. Holly Water Co. (service quality and low-income programs and policies), Dockets Nos. WR03070509-WR03070511 (December 2003).

Comments on behalf of the Texas Legal Services Center and other Consumer Groups before the Public Utility Commission of Texas, Proposed Revisions to Chapter 25, Substantive Rules Applicable to Electric Service Providers, Project No. 27084 (December 2003).

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Alexander, Barbara, "Montana's Universal Systems Benefit Programs and Funding for Low Income Programs: Recommendations for Reform: A Report to AARP" (January 2004).

Comments and Reply Comments on behalf of the Colorado Office of Consumer Counsel before the Public Utilities Commission of Colorado, In the Matter of the Proposed Repeal and Reenactment of all Rules Regulating Gas Utilities (Docket No. 03R-520G) and Electric Utilities (Docket No. 03R-519E) (February and September 2004).

Direct, Rebuttal, and Supplemental Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Petition of Duquesne Light Co. for Approval of Plan for Post-Transition Period POLR Services, Docket No. P-00032071 (February-April 2004).

Comments on behalf of AARP before the California PUC, Order Instituting Rulemaking on the Commission's Own Motion to Establish Consumer Rights and Consumer Protection Rules Applicable to All Telecommunications Utilities, R. 00-02-004 (March 2004).

Comments and Reply Comments on behalf of AARP before the Maine PUC, Inquiry into Standard Offer Supply Procurement for Residential and Small Commercial Customers, Docket No. 2004-147 (April 2004).

Comments on behalf of Wisconsin Citizens' Utility Board before the Wisconsin Public Service Commission's Gas Service Standards, Docket No. 1-AC-210 (July 2004).

Comments on behalf of the Colorado Office of Consumer Counsel before the Public Utilities Commission of Colorado, In the Matter of the Proposed Repeal and Reenactment of all Rules Regulating Telephone Utilities and Providers (Docket No. 03R-524T) (September 2004).

Direct Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Investigation if Metropolitan Edison Co., Pennsylvania Electric Co. and Pennsylvania Power Co. Reliability Performance, Docket no. I-00040102, [customer service and reliability performance] (June 2004).

Direct and Surrebuttal Testimony on behalf of the Vermont Department of Public Service before the Vermont Board of Public Utilities, Investigation into Successor Alternative Regulatory Plan for Verizon Vermont, Docket 6959 [Service

Quality] (November 2004 and March 2005).

Alexander, Barbara, "Vermont Energy Programs for Low-Income Electric And Gas Customers: Filling The Gap" (November 2004), Prepared for AARP Vermont.

Direct and Surrebuttal Testimony on behalf of Wisconsin Citizens' Utility Board before the Wisconsin Public Service Commission, Application of Wisconsin Power and Light Co. for Authority to Increase Retail Electric, Natural Gas and Ripon Water Rates, Docket No. 6680-UR-114 [customer service, credit and collection programs and expenses, low income programs, fixed bill program] (April 2005).

Comments on behalf of the Maine Office of Public Advocate before the Maine Public Utilities Commission, Inquiry into Revisions to Chapter 81, Residential Utility Service Standards for Credit and Collection Programs, and Chapter 86, Disconnection and Deposit Regulations for Nonresidential Utility Service, Docket No. 2005-005 (April and May 2005).

Direct and Rebuttal Testimony on behalf of AARP Montana before the Montana Public Service Commission, Northwestern Energy Electric Cost Tracker, Docket No. D2004.6.90 [Default Service cost recovery policies and integration with low income programs] (December 2004 and July 2005).

Direct Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Joint Application of PECO Energy Co. and Public Service Electric and Gas Co. for Approval of the Merger of Public Service Enterprise Group, Inc. with and into Exelon Corporation, Docket No. A-110550F0160 [customer service, reliability of service, low income programs] (June 2005).

Direct Testimony on behalf of Illinois Citizens' Utility Board, City of Chicago, and Community Action for Fair Utility Practice, before the Illinois Commerce Commission, Petition to Initiate Rulemaking with Notice and Comment for Approval of Certain Amendments to Illinois Administrative Code Part 280 Concerning Deposit Requests and Deposit Refunds by Utilities, Docket No. 05-0237 (June 2005).

Direct Testimony on behalf of The Utility Reform Network (TURN) before the California Public Utilities Commission, Order Instituting Rulemaking on the Commission's Own Motion to Establish Consumer Rights and Consumer Protection Rules Applicable to All Telecommunications Utilities, Docket R-00-02-004 (August 2005).

Alexander, Barbara, Red Flags for Consumer Protection Policies Governing Essential Electric and Gas Utility Services: How to Avoid Adverse Impacts on Low-Income Consumers, prepared under contract with Oak Ridge National Laboratory Energy Division (October 2005).

Comments on behalf of Texas Office of Public Utility Counsel, Texas Legal Services Center, Texas Ratepayers' Organization to Save Energy and AARP Texas, before the Texas PUC, Evaluation of Default Service for Residential Customers and Review of Rules Relating to the Price to Beat and Provider of Last Resort, Project No. 31416 (March 2006) [Default service policies]

Rebuttal and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, In the Matter of the Petition of the Pennsylvania Power Co. for Approval of an Interim Provider of Last Resort Supply Plan, Docket No. P-00052188 [Default Service policies] (December 2005 and January 2006).

Direct and Rebuttal Testimony on behalf of the Maine Office of Public Advocate before the Maine PUC, Investigation into Verizon Maine's Alternative Form of Regulation, Docket No. 2005-155 [Retail Service Quality] (January and May 2006).

Alexander, Barbara, "State Developments Changing for Default/Standard Retail Electric Service," Natural Gas & Electricity, September 2006.

Direct and Rebuttal Testimony on behalf of the Government and Consumer Parties (CUB, Attorney General of Illinois) before the Illinois Commerce Commission, Petition to Initiate Rulemaking with Notice and Comment for Approval of

Certain Amendments to Illinois Administrative Code Part 280, Docket No. 06-0379 (May and September 2006). [Consumer Protection rules]

Direct Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, In Re Application of UGI Utilities, Inc., UGI Utilities Newco, Inc., and Southern Union Co., Docket Nos. A-120011F2000, A-125146, A-125146F5000 (June 2006). [Customer Service, Service Quality, and Universal Services]

Direct and Rebuttal Testimony on behalf of the Maryland Office of People's Counsel before the Maryland PSC, In The Competitive Selection of Electricity Supplier/Standard Offer or Default Service for Investor-Owned Utility Small Commercial Customers and, Delmarva Power and Light and Potomac Electric Power Residential Customers, Case No. 9064 (August and September 2006). [Default Service policies]

Direct and Rebuttal Testimony on behalf of the Maryland Office of People's Counsel before the Maryland PSC, In The Matter of the Optimal Structure of the Electric Industry of Maryland, Case No. 9063 (October and November 2006). [Default service policies]

Comments on behalf of AARP Maine before the Maine PUC on various dockets and notices concerning the implementation of Standard Offer Service for residential customers, Docket Nos. 2006-314, 2006-557, and 2006-411 (July-November 2006). [Default service policies]

Comments on behalf of AARP District of Columbia before the District of Columbia PSC, In the Matter of the Development and Designation of Standard Offer Service in the District of Columbia, Case No. 1017 (2006). [Default service policies]

Comments on behalf of AARP New Jersey before the New Jersey Board of Public Utilities, In the Matter of the Establishment of a Universal Service Fund Pursuant to Section 12 of the Electric Discount and Energy Competition Act of 1999, Docket No. EX00020091 (August 2006) [Recommendations for USF program changes]

Direct and Rebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Joint Application of Equitable Resources, Inc. and the People's Natural Gas Co., d/b/a Dominion Peoples, for Approval of the Transfer of All Stock Rights of the Latter to the Former and for the Approval of the Transfer of All Stock of Hope Gas, Inc., d/b/a/ Dominion Hope to Equitable Resources, Inc., Docket No. A-122250F5000 (September and October 2006). [Customer Service, Service Quality, and Universal Service issues)

Direct Testimony on behalf of Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Pennsylvania PUC v. Natural Fuel Gas Distribution Corp., Docket No. R-00061493 (September 2006) [Supplier Purchase of Receivables Program]

Direct Testimony on behalf of AARP Montana before the Montana Public Service Commission, Joint Application of NorthWestern Energy and BBI to purchase NorthWestern Energy, Docket No. 2006.6.82 [December 2006] [Conditions for approval of merger; low income and customer service programs]

Rebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Petition by PPL Electric Utilities Corp. for Approval of a Competitive Bridge Plan, Docket No. P-00062227 (December 2006) [Default Service policies]

Direct and Rebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Application of Duquesne Light Company for a Certificate of Public Convenience Under Section 1102(a)(3) of the Public Utility Code Approving the Acquisition of Duquesne Light Holding, Inc. by Merger, Docket A-110150F0035 (December 2006 and January 2007) [Conditions for approval of merger; low income and customer service programs]

Testimony before the House Least Cost Power Procurement Committee, Illinois General Assembly, on HB 1510, on behalf of AARP [March 22, 2007]

Rebuttal and Surrebuttal Testimony on behalf of Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Petition of Duquesne Light Co. for Approval of Default Service Plan for January 1, 2008 to December 31, 2010, Docket No. P-00072247 [April 2007] [Default Service policies]

Comments and Reply Comments on behalf of AARP New Jersey before the Board of Public Utilities BGS Working Group concerning BGS procurement policies and proposed demand response program, (March-May 2007) [Default Service policies]

Comments on behalf of AARP New Jersey to the New Jersey BPU Staff on draft proposed USF regulations (May 2007) [Low income program design and implementation]

Alexander, Barbara, Smart Meters, Real Time Pricing, And Demand Response Programs: Implications For Low Income Electric Customers (May 2007)

Direct and Surrebuttal Testimony on behalf of Maine Office of Public Advocate before the Maine Public Utilities Commission, Re: Joint Application for Approvals Related to Verizon's Transfer of Property and Customer Relations to Company to be Merged with and into FairPoint Communications, Inc., Docket 2007-67 (July and September 2007) [Service Quality and Customer Service Conditions for Merger]

Testimony on behalf of AARP Montana before the Montana Public Service Commission, In the Matter of Montana Dakota Utilities Co., Public Service Commission Investigation and Direction on Electric and Natural Gas Universal System Benefits, Docket No. D2006.1.2 (July 30, 2007) [Design and funding for low income programs]

Direct and Surrebuttal Testimony on behalf of Maine Office of Public Advocate before the Maine Public Utilities Commission, Central Maine Power Co. Chapter 120 Information (Post ARP 2000) Transmission and Distribution Utility Revenue Requirement and Rate Design And Request for Alternative Rate Plan, Docket No. 2007-215 (August 30, 2007 and February 2008) [AMI deployment]

Direct and Reply Testimony on behalf of AARP Maryland before the Maryland Public Service Commission, In the Matter of the Commission's Investigation of Investor-Owned Electric Companies' Standard Offer Service for Residential and Small Commercial Customers in Maryland, Case No. 9117, Phase I and II (September 2007) [Default Service policies]

Testimony on behalf of AARP Maryland before the Maryland Public Service Commission, In the Matter of the Commission's Investigation of Advanced Metering Technical Standards, Demand Side Management Competitive Neutrality, and Recovery of Costs of Advanced Meters and Demand Side Management Programs, Case 9111 (November 2, 2007) [Default Service policies; AMI deployment]

Comments on behalf of AARP District of Columbia before the D.C. Public Service Commission, In the Matter of The Application Of Potomac Electric Power Co. For Authorization to Establish A Demand Side Management Surcharge and an Advanced Metering Infrastructure Surcharge And to Establish a DSM Collaborative and an AMI Advisory Group, Formal Case No. 1056 (August 10, September 10, November 13, 2007, April 2008) [Default Service policies; AMI deployment]

Comments on behalf of AARP District of Columbia before the D. C. Public Service Commission, Re: The Petition of the Office of the People's Counsel for the District of Columbia for an Investigation into the Structure of the Procurement Process for Standard Offer Service, Formal Case No. 1047 (November 2007) [Default Service policies]

Direct, Rebuttal and Surrebuttal testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Petition of the West Penn Power Co. d/b/a Allegheny Power for Approval of its Retail Electric Default Service Program and Competitive Procurement Plan for Service at the Conclusion of the Restructuring Transition Period, Docket No. P-00072342 (February-March 2008) {Default service procurement policies]

Testimony on behalf of AARP before the Virginia Commission on Electric Utility Restructuring in the General Assembly on HB 1523 and SB 311 (January 2007) [Electric Utility Integrated Resource Planning]

Testimony on behalf of AARP before the Ohio House of Representatives on SB 221 (February 2008) [Default Service procurement policies for post-transition period]

Alexander, Barbara, The Federalization Of Energy Prices: How Policies Adopted By The Federal Energy Regulatory Commission Impact Electricity Prices For Residential Customers: A Plain Language Primer (March 2008)

Comments on behalf of AARP before the New Jersey Board of Public Utilities, In the Matter of the Universal Service Fund, Docket Nos. EO07110888 and EX00020091 (April 2008) [low income program; automatic enrollment]

Direct and Surrebuttal testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utility Commission, PUC v. Columbia Gas of Pennsylvania, Inc., Docket No. R-2008-2011621 (May and June 2008) [rate case: retail gas competition and Purchase of Receivables program]

Direct Testimony on behalf of Public Counsel and the Energy Project before the Washington Utilities and Transportation Commission, WUTC v. Puget Sound Energy, Inc., Docket Nos. UE-072300 and UG-072301 (May 2008) [revisions to Service Quality Index; storm cost recovery; fixed customer charge; low income program funding]

Direct Testimony on behalf of Public Counsel and the Energy Project before the Washington Utilities and Transportation Commission, In the matter of the Application of Puget Holdings LLC and Puget Sound Energy for an Order Authorizing Transaction, Docket No. U-072375 (June 2008) [Conditions for Sale: customer service; low income programs]

Direct Testimony on behalf of Local 223, UWUA before the Michigan Public Service Commission, In the Matter of the application of Detroit Edison Co. for authority to increase its rates, Case No. U-15244 (July 2008) [Customer Service standards; Advanced Metering proposal]

Reply Testimony on behalf of AARP before the Mississippi Public Service Commission, Proceeding to Review Statewide Energy Generation Needs, Docket No. 2008-AD-158 (August 2008) [Integrated Resource Planning]

Comments on behalf of Local 223, UWUA before the Michigan Public Service Commission, In the matter, on the Commission's own Motion, to investigate the development of minimum functionality standards and criteria for advanced metering infrastructure (AMI), Case No. U-15620 {August 2008) [Advanced Metering policies and standards]

Direct and Rebuttal Testimony on behalf of Illinois Citizens Utility Board and AARP before the Illinois Commerce Commission, Citizens Utility Board, Citizens Action/Illinois and AARP vs. Illinois Energy Savings Corp. d/b/a U.S. Energy Savings Corp., Complaint pursuant to 220 ILCS 5/19-110 or 19-115, Docket 08-0175. (August and November 2008) [Investigation of marketing activities and licensing conditions of an alternative gas supplier]

Direct Testimony on behalf of Ohio Partners for Affordable Energy before the Public Utilities Commission of Ohio on filings by electric utilities pursuant to SB 221: Market Rate Option plan filed by FirstEnergy (Case No. 08-936-EL-SSO), Electric Security Plan filed by FirstEnergy (Case No. 08-935-EL-SSO), and Electric Security Plan filed by AEP Ohio (Case No.08-917-EL-SSO & Case No. 08-918-EL-SSO) (September-November 2008) [Default Service procurement policies; energy efficiency and smart meter proposals]

Reply, Surrebuttal, and Supplemental Testimony on behalf of Maryland Office of People's Counsel before the Maryland Public Service Commission, In the Matter of Appropriate Forms of Regulating Telephone Companies, Case No. 9133 (August and October 2008; July 2009) [service quality performance conditions for alternative rate regulation of Verizon-MD]

Comments on behalf of AARP before the Idaho Public Utilities Commission, In the Matter of the Application Of Idaho Power Co. for a Certificate of Public Convenience and Necessity to Install Advanced Metering Infrastructure ("AMI") Technology Throughout its Service Territory, Case No. IPC-E-08-16 (December 2008) [Smart Meter costs and benefits]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utility Commission, Joint Application for the Authority and Necessary Certificates of Public Convenience to Transfer all of the Issued and Outstanding Shares of Capital Stock of the Peoples Natural Gas Co. d/b/a Dominion Peoples, Currently owned by Dominion Resources, Inc. to Peoples Hope Gas Companies LLC, an Indirect Subsidiary of Babcock & Brown Infrastructure Fund North America LP, and to Approve the Resulting Change in Control of the Peoples Natural Gas Co. d/b/a Dominion Peoples, Docket No. A-2008-2063737 (December 2008 and July 2009) [Proposed conditions relating to Service Quality and Universal Service programs]

Rebuttal Testimony on behalf of Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Petition of PPL Electric Utilities Corp. for Approval of a Default Service Program and Procurement Plan, Docket No. P-2008-2060309 (January 2009) [Retail Market Programs]

Rebuttal Testimony on behalf of Pennsylvania Office of Consumer Advocate before the Pennsylvania PUC, Petition of PECO Energy Co. for Approval of its Default Service Program and Rate Mitigation Plan, Docket No. P-2008-2062739 (January 2009) [Retail Market Programs]

Comments on behalf of AARP before the Mississippi Public Service Commission, In Re: Order Establishing Docket to Consider standards established by the Energy Independence and Security Act of 2007, Docket No. 2008-ad-477 (February 2009) [PURPA Policies; Integrated Resource Planning; Time-Based Pricing]

Co-Author of Comments on behalf of The Utility Reform Network (TURN) before the California Public Utilities Commission, Order Instituting Rulemaking to consider Smart Grid Technologies Pursuant to Federal Legislation and on the Commission's own Motion to Actively Guide Policy in California's Development of a Smart Grid System, Docket R. 08-12-009 (2009 and 2010) [Smart Grid policies]

Direct and Rebuttal Testimony on behalf of the Attorney General of the Commonwealth of Massachusetts before the Department of Public Utilities, Investigation by the Department of Public Utilities on its Own Motion into the Preparation and Response on Fitchburg Gas & Electric Co. d/b/a Unitil to the December 12, 2008 Winter Storm, D.P.U. 09-01-A (March and April 2009) [Investigation of storm restoration practices]

Testimony on behalf of UWUA Local 132 before the California Public Utilities Commission, Southern California Gas Co. Advanced Metering Infrastructure, Docket No. A.08-09-023 (April 2009) [Advanced metering deployment]

Direct and Rebuttal Testimony on behalf of the Delaware Public Service Commission Staff before the Delaware Public Service Commission, In the Matter of the Investigation into the Business and Marketing Practices of Horizon Power and Light, LLC, Docket No. 355-08 (April and June 2009) [Investigation into marketing and contract practices of licensed electricity supplier]

Testimony on behalf of AARP before the District of Columbia Public Service Commission, In the Matter of the Application of Potomac Electric Power Co. for Authority to Establish a Demand Side Management Surcharge and an Advanced Metering Infrastructure Surcharge and to Establish a DSM Collaborative and an AMI Advisory Group, Formal Case No. 1056 (June 2009) [Advanced Metering proposal]

Rebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utility Commission, Petition of Metropolitan Edison Co. and Pennsylvania Electric Co. for Approval of its Default Service Program, Docket Nos. P-2009-2093053 and P-2009-2093054 (June 2009) [Default Service policies]

Alexander, Barbara, with the Assistance of Mitchell, Cynthia and Court, Gill, Renewable Energy Mandates: An Analysis Of Promises Made And Implications For Low Income Customers, Prepared under contract with Oak Ridge National Laboratory UT-Battelle, LLC, Purchase Order No. 4000091296 (June 2009).

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Presentations and Training Programs:

- Presentation on Consumer Protection Policies for Solar Providers, New Mexico Public Regulatory Commission, Santa Fe, NM, January 2017
- Presentation on Residential Rate Design Policies, National Energy Affordability and Energy Conference, Denver, CO., June 2016
- Presentation on "Regulatory-Market Arbitrage: From Rate Base to Market and Back Again," before the Harvard Electricity Policy Group, Washington, D.C., March 2016.
- Presentation on Residential Rate Design and Demand Charges, NASUCA, November 2015.
- Alexander, Barbara, "Residential Demand Charges: A Consumer Perspective," presentation for Harvard Electricity Policy Group, Washington, D.C., June 2015.
- Presentation on "Future Utility Models: A Consumer Perspective," for Kleinman Center for Energy Policy, U. of Pennsylvania, August 2015.
- Presentation, EUCI Workshop on Demand Rates for Residential Customers, Denver, CO [May 2015]
- Presentation, Smart Grid Future, Brookings Institute, Washington, DC [July 2010]
- Participant, Fair Pricing Conference, Rutgers Business School, New Jersey [April 2010]
- Presentation on Smart Metering, National Regulatory Conference, Williamsburg, VA [May 2010]
- Presentation on Smart Metering, Energy Bar Association Annual Meeting, Washington, DC [November 2009]
- Presentation at Workshop on Smart Grid policies, California PUC [July 2009]
- National Energy Affordability and Energy Conference (NEAUC) Annual Conference
- NARUC annual and regional meetings
- NASUCA annual an regional meetings
- National Community Action Foundation's Annual Energy and Community Economic Development Partnerships Conference
- Testimony and Presentations to State Legislatures: Virginia, New Jersey, Texas, Kentucky, Illinois, and Maine
- Training Programs for State Regulatory Commissions: Pennsylvania, Georgia, Kentucky, Illinois, New Jersey
- DOE-NARUC National Electricity Forum
- AIC Conference on Reliability of Electric Service
- Institute of Public Utilities, MSU (Camp NARUC) [Instructor 1996-2006]
- Training Programs on customer service and service quality regulation for international regulators (India and Brazil) on behalf of Regulatory Assistance Project
- Georgia Natural Gas Deregulation Task Force [December 2001]
- Mid Atlantic Assoc. of Regulatory Utility Commissioners [July 2003]
- Illinois Commerce Commission's Post 2006 Initiative [April 2004]
- Delaware Public Service Commission's Workshop on Standard Offer Service [August 2004]

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2017-2586783
	:	
Philadelphia Gas Works	:	

VERIFICATION

I, Barbara Alexander, hereby state that the facts above set forth in my Rebuttal Testimony, OCA Statement No. 5-R, are true and correct and that I expect 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).

Signature: Barbara R. Alexander
Barbara Alexander

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Winthrop, ME 04364

DATED: June 9, 2017

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