BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

TESTIMONY OF

JOSEPH F. GOLDEN, JR.

ON BEHALF OF
PHILADELPHIA GAS WORKS

Docket No. R-2017-2586783

Philadelphia Gas Works

General Rate Increase Request

Financial Condition
Supporting Justification for Requested Increase

February 2017

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND POSITION WITH THE COMPANY.

A. My name is Joseph F. Golden, Jr. My position is Executive Vice President and Acting Chief Financial Officer for Philadelphia Gas Works ("PGW" or "Company").

Q. HOW LONG HAVE YOU HELD THIS POSITION?

A. I was appointed Executive Vice President and Acting Chief Financial Officer in March 2012. I started with PGW in August 1986. My prior titles at PGW include: Controller, Treasurer, Manager Treasury Department, Senior Staff Accountant, and Staff Accountant. Before starting with PGW, I had prior work experience in public accounting, treasury accounting and cash management, and cost accounting for a manufacturing company.

Q. WHAT ARE YOUR VARIOUS JOB RESPONSIBILITIES?

A. In my present position, I am responsible for the treasury, accounting, and budgeting functions.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

A. I hold a Bachelor of Science degree in Accounting from Villanova University, a Master of Business Administration degree from Drexel University, and a Juris Doctor degree, *cum laude*, from Temple University School of Law.

Q. HAVE YOU EVER PROVIDED TESTIMONY BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION ("COMMISSION")?

A. Yes. I submitted rebuttal testimony on behalf of PGW in the 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 Charges (Docket No. P-2015-2501500).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to: 1) provide the documentation and supporting methodology for the schedules and exhibits that are included in PGW's base rate filing; 2) describe PGW's financial results for the fully projected future test year (comprised of the period from September 1, 2017 through August 31, 2018); and 3) detail and provide supporting justification for PGW's requested increase in existing annual base rates of $70.0 million (in year one).

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. Since PGW's last base rate case in 2009/2010, the Company has undertaken a number of initiatives to modernize its infrastructure, make its system safer and more efficient and improve customer service. While some of those efforts have been financed through surcharges (i.e., the acceleration of PGW's main replacement program), PGW has undertaken numerous other efforts that have been financed through base rates or additional borrowing. At the same time, PGW has experienced material increases in operating costs while seeing weather normalized levels of sales and associated revenues dramatically decrease. During this period, PGW's financial health has continued to improve, compared to 2008 levels. However, PGW's pro forma results clearly demonstrate that a rate increase is needed if the Company is going to maintain its financial status and current favorable bond ratings and be able to continue with its significant efforts to improve the safety, efficiency and reliability of its system and continue to work to improve customer service.

II. BACKGROUND FOR CONSIDERATION OF RATE REQUEST

Financial Condition

Q. PLEASE PROVIDE THE BACKGROUND OF PGW'S CURRENT FINANCIAL CONDITION.

A. Since its last general rate increase in 2010, PGW's financial strength has slowly improved such that it has achieved revenue bond upgrades from all three rating agencies[1] that rate the City of Philadelphia Gas Works Revenue Bonds ("PGW's Bonds"):

S&P: to A- (Positive Outlook) from BBB+ (Stable Outlook)
Moody's to Baa1 (Stable Outlook) from Baa2 (Stable Outlook)
Fitch to BBB+ (Stable Outlook) from BBB (Stable Outlook)

In addition, S&P has improved its "outlook" for PGW's Bonds from "Stable" to "Positive". But, as Mr. Douglas Moser, PGW St. No. 7, explains, as its financial health has improved, PGW has steadily increased its efforts to improve safety, reliability, and customer service on its system. As Mr. Daniel Hartman, PGW St. No. 3, also explains, it is crucially important that PGW, at least, maintain these bond ratings – or, ideally, improve them – so that it can continue to have access to the capital markets on acceptable terms and to finance a portion of these improvements through internally generated funds. Since 2009, PGW has been able to finance about $185 million in capital additions through internally generated funds, which otherwise would have had to come from additional long term borrowing. Mr. Hartman describes the important financial metrics PGW must maintain in order to do this. Thus, the rate increase requested by PGW is critically necessary to place the Company in a position to continue to

[1] *See* Exhibit JFG-3.

modernize its infrastructure, take additional steps to make its distribution system safer and more efficient, and continue to improve customer service.

Long-Term Debt

Q. PLEASE SUMMARIZE RECENT ACTIVITY REGARDING PGW'S LONG-TERM DEBT ISSUANCES.

A. PGW successfully completed revenue bond refunding transactions in August of 2016 and 2015 in the amounts of $312.4 million and $261.8 million, respectively. The long-term debt refunding completed in August 2016 achieved gross savings of $71.1 million and net present value ("NPV") savings of $38.2 million. With level debt service savings, this transaction lowered debt service and the costs that will be imposed on customers, by approximately $4.05 million ($2.7 million in debt service and $1.35 million in debt service coverage at 1.5x) per year for the next 22 years.

The transaction completed in August 2015 achieved gross savings of $74.1 million and NPV savings of $34.3 million. With level debt service savings, this transaction lowered debt service and charges to ratepayers by approximately $4.95 million ($3.3 million in debt service and $1.65 million in debt service coverage at 1.5x) per year for the next 19 years. As Mr. Hartman explains, PGW's ability to continue to take advantage of an attractive interest rate environment and refinance existing debt requires that PGW maintain or improve its current financial condition. It is noteworthy that interest expense has decreased from the 2009/2010 base rate case when compared to the FPFTY (FY 2018) by $12.6 million ($61.8 million reduced to $49.2 million annually) because

PGW: 1) has refinanced long term debt at lower interest rates; and 2) reduced long term debt by normal amortization.

Q. WHAT PLANS DOES PGW HAVE TO SELL BONDS IN THE FORESEEABLE FUTURE?

A. PGW anticipates issuing City of Philadelphia Gas Works Revenue Bonds in the par amount of $270.0 million in its fiscal year ("FY") 2017, the 12 months ended August 31, 2017. The exact timing of the issuance would be subject to market conditions. The next bond issuance is projected to be in FY 2020 and in the amount of $180 million.

III. PRO FORMA FINANCIAL RESULTS

Q. HAVE YOU PREPARED A PRO FORMA TEST YEAR INCOME STATEMENT, CASH FLOW, DEBT SERVICE COVERAGE AND BALANCE SHEET THAT PROJECTS THE COMPANY'S STATUS IN THE CURRENT YEAR AS WELL AS ON A PROJECTED BASIS?

A. Yes.

Q. FIRST, PLEASE EXPLAIN THE TEST YEAR ON WHICH PGW'S CLAIMED REVENUE REQUIREMENT IS BASED.

A. As permitted by Act 11 of 2012, PGW has based its claimed revenue requirement on the fully forecasted 12 months ending August 31, 2018, referred to as the Fully Projected Future Test Year ("FPFTY"). The Future Test Year ("FTY") is FY 2016-2017 or FY 2017 and the Historical Test Year ("HTY") is FY 2015-2016 or FY 2016. Those results are displayed on Exhibit JFG-1. Each page of this exhibit shows data for: (1) the HTY, the 12 months ended August 31, 2016 or FY 2016; (2) the FTY, the 12 months ended August 31, 2017 or FY 2017; and (3) the FPFTY, the 12 months ended August 31, 2018 or FY 2018. The Exhibit also shows projections for FY 2019 through FY 2022 (which I will refer to as the

"Forecast Period"). Page 1 of Exhibit JFG-1 displays operating revenues, operating expenses and net earnings (Statement of Income); page 2 displays PGW's Cash Flow Statement, page 3 shows Debt Service Coverage; and page 4 shows the Company's Balance Sheet and capitalization ratios.

Q. PLEASE DESCRIBE HOW THE DATA FOR THE HISTORIC TEST YEAR WERE DERIVED.

A. The HTY is the actual audited results for FY 2015-2016. Note that these data are not adjusted for normal weather.

Q. PLEASE DESCRIBE HOW THE FUTURE TEST YEAR AND FULLY PROJECTED FUTURE TEST YEAR RESULTS WERE CREATED.

A. The FTY and FPFTY results were derived by starting with PGW's current (FY 2016-2017) Budget ("Budget year"), approved by the Philadelphia Gas Commission ("PGC"). PGW develops its annual Budget generally, as follows:

1. PGW's Marketing and Gas Planning departments calculate revenues and sales by class for the Budget year, and provide projections for the forecast years. This process is fully described in the testimony of Kenneth Dybalski (PGW St. 6). Revenue-related expenses (chiefly natural gas) are then calculated.

2. The Budget year expenses are then determined. Each department submits its view of the expense levels it will experience in the budget year. Where a specific cost category increase or changes affecting the expense level was identified, those levels were used to establish the expense for the respective Budget year. For example, PGW utilized the annual wage increases established in its current collective bargaining agreement to calculate wage expense for various departments. Also, PGW utilized information provided by its benefits consultant

to project health care costs and other benefit costs, including Other Post-Employment Benefits ("OPEB"). Long-term debt interest expense and debt amortization was also adjusted to reflect more recent information concerning the results of the recent debt refinancing. These results were then used to prepare four key financial schedules for FY 2016-2017: income statement; cash flow statement; debt service coverage; and the balance sheet.

Q. DOES PGW ALSO PREPARE A FIVE YEAR FORECAST OF FINANCIAL OPERATIONS?

A. Yes. Using the Budget year as the base year, PGW rolls forward its budgeted operating results to create a five-year forecast, taking account of any known rate or other changes that might affect the results in a particular year. PGW used the first year of its five year forecast, FY 2017-2018, as its FPFTY.

Q. WHAT IS THE REVIEW AND APPROVAL PROCESS ASSOCIATED WITH THIS BUDGET AND FIVE YEAR FORECAST?

A. In addition to an internal review and approval process by the PGW executive team, PGW is required to obtain approval of its annual budget from both the Philadelphia Facilities Management Corporation ("PFMC") (the equivalent of PGW's Board of Directors) and the PGC. PGW's capital budget must be approved by the PFMC, the PGC, and Philadelphia City Council.

Q. HOW ARE THE AMOUNTS SHOWN ON JFG-1 DIFFERENT THAN THOSE APPROVED BY PFMC, PGC, AND PHILADELPHIA CITY COUNCIL?

A. For the FPFTY (FY 2017-2018) and the Forecast Period (FYs 2019, 2020, 2021 and 2022), and as explained more fully by Mr. Kenneth Dybalski, PGW St. No. 6, pro forma revenues have been adjusted to reflect normal weather using a ten-year average for heating degree days and the estimated impact of gas cost changes.

Test year expenses have also been updated for known changes, the most significant of which is the effect of GASB 75 on the FY 2017-2018 year.

Q. PLEASE EXPLAIN GASB 75 AND ITS EFFECT ON PGW.

A. Both privately and publicly owned companies are required to adhere to General Accepted Accounting Principles ("GAAP") established by accounting review boards. Investor owned utilities must adhere to GAAP established by the Financial Accounting Standards Board ("FASB"). States and municipalities must adhere to similar standards promulgated by the Governmental Accounting Standards Board ("GASB"). GASB 75, the equivalent of FASB for municipalities, mandated that starting in FY 2017-2018, OPEB costs for retirees be shown as deferred inflows of funds and deferred outflows of funds on the balance sheet rather than as current expenses. The necessary adjustments were made in the FPFTY to reflect these accounting mandates. Importantly, this accounting change relates to compliance with GAAP and does not eliminate or change PGW's obligation to continue to pay the appropriate level of cash outlays as calculated by the actuary.

Q. WHAT OTHER ITEMS HAVE BEEN UPDATED?

A. The cost of PGW's most recent refinancing has been reflected in the FPFTY. In addition, PGW's rate case expense has been amortized over three years.

IV. <u>CALCULATION OF REVENUE REQUIREMENT</u>

Q. PLEASE EXPLAIN THE BASIS ON WHICH PGW HAS CALCULATED ITS REVENUE REQUIREMENT FOR THE FPFTY.

A. As noted, PGW is not regulated on the basis of a fair rate of return on a used and useful rate base as are investor-owned utilities; instead, the Company's revenue requirement is established on the basis of the "Cash Flow Method." While I am informed that the use of the Cash Flow Method is mandated by the Gas Choice Act,[2] the Commission has explained how it intends to implement that standard for PGW. In its 2010 Policy Statement, the Commission described the requirements of the Cash Flow Method as follows:

> (b) The Commission is obligated under law to use the cash flow methodology to determine PGW's just and reasonable rates. Included in that requirement is the subsidiary obligation to provide revenue allowances from rates adequate to cover its reasonable and prudent operating expenses, depreciation allowances and debt service, as well as 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.[3]

The Commission also stated that, in determining just and reasonable rate levels for PGW it would consider, among other relevant factors, the following financial factors:

- PGW's test year-end and (as a check) projected future levels of non-borrowed year-end cash.
- Available short term borrowing capacity and internal generation of funds to fund construction.
- Debt to equity ratios and financial performance of similarly situated utility enterprises.
- Level of financial performance needed to maintain or improve PGW's bond rating thereby permitting PGW to access the capital markets at the lowest reasonable costs to customers over time.[4]

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[2] 66 Pa.C.S. § 2212(e); 52 Pa.Code § 69.2702(b) ("The Commission is obligated under law to use the cash flow methodology to determine PGW's just and reasonable rates.").

[3] 52 Pa.Code § 69.2702.

[4] 52 Pa.Code § 69.2703.

Q. PLEASE EXPLAIN HOW PGW HAS APPLIED THIS GUIDANCE IN DETERMINING ITS REVENUE REQUIREMENT.

A. As a "cash flow" regulated company, PGW's operations are entirely funded from rates, either indirectly as a result of short-term or long-term borrowing (which then must be paid back by ratepayers) or directly through charges to customers. Accordingly, PGW's most important financial metrics are:

1) debt service coverage ratios; and

2) end of year days cash on hand; and, separately,

3) liquidity balance.

First, PGW's debt service coverage levels are crucial because if the Company falls below the 1.5x minimum requirement in its bond covenants, reflected in the City of Philadelphia Ordinance that establishes the requirements for PGW's bonds[5] then it will be in technical default and its access to capital markets will evaporate. However, it needs higher levels of coverage (above the 1.5x minimum) in order to meet cash requirements not contained in the Bond Ordinance calculation or in the operating expense category of the income statement.

Second, PGW's end of year cash balance is also crucial because PGW needs an accumulated balance of cash in its accounts at fiscal year-end to pay its

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[5] The General Gas Works Revenue Bond Ordinance of 1998, approved on May 30, 1998, Bill No. 980232, as amended and supplemented from time to time (the "1998 General Ordinance") and the General Gas Works Revenue Bond Ordinance of 1975, approved on May 30, 1975, Bill No. 1871, as amended and supplemented from time to time (the "1975 General Ordinance") (collectively referred to as the "Bond Ordinance").

substantial obligations (the largest of which are invoices for natural gas and upstream pipeline capacity used by its customers) and working capital requirements beginning in the fall and continuing into the winter, prior to collecting revenues for the winter heating season.

Third, PGW's year-end liquidity (cash plus available short-term borrowing capacity) is also important to meet its substantial obligations during the winter prior to receiving revenues from customers, and to provide a responsible and reasonable measure of cushion for unforeseen circumstances.

In addition to the three metrics discussed above, the other indices that are important are the Company's capitalization ratio and its sources of internally generated funds to fund construction. Both of these factors are listed in the Commission's 2010 Policy Statement and are among the main focus points that are considered by the bond rating agencies in evaluating the creditworthiness of PGW.[6]

Q. HOW DO THE OPERATING RESULTS SHOWN ON THE ATTACHED EXHIBITS TREAT THE CITY PAYMENT OF $18.0 MILLION?

A. The City Payment is shown as an expense of the Company since PGW is legally obligated to make this payment.[7] While the City of Philadelphia "granted back" this payment during PGW's financial crisis in the late 2000s, it has, since 2010, ended the grant back. Based upon the latest budget and forecast information

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6 *See, e.g.*, Exhibit JFG-3 at Moody's Investors Service, Philadelphia (City of) PA Gas Works, Credit Opinion (August 8, 2016); S & P Global RatingsDirect, Philadelphia; Gas; Joint Criteria (August 10, 2016).

7 *See* 66 Pa.C.S. 2212(f).

submitted by the City, it intends to continue to have PGW remit this fee for the foreseeable future. Accordingly, the City Payment is treated as a "known and definite" expense in PGW's operating results and resulting financial metrics.

Non-Borrowed Year-End Cash

Q. WHAT LEVELS OF YEAR END CASH IS PGW PROJECTING IT WILL EXPERIENCE IN THE FPFTY?

A. In FY 2017-2018, PGW is projecting that it will end the year with just $47.4 million in cash; this projection dramatically decreases in the Forecast Period. This equates to just 35.7 days of cash on hand[8] with the cash balance quickly turning negative in the Forecast Period. As more fully explained by Mr. Hartman, the bond rating agencies that closely follow PGW's financial performance have indicated that a cash balance of between 70 and 90 days of cash on hand is adequate for PGW to maintain its existing bond rating and not be downgraded.[9] Therefore, a cash balance of only 36 days would not only be extremely concerning to the rating agencies, it would also pose real challenges to the Company's ability to meet all of its obligations when they came due.

It is important to understand that the measurement of 36 days cash on hand is being presented as of August 31, 2018, PGW's fiscal year-end. PGW's cash balance changes throughout the fiscal year and is at a low point in the middle of the fiscal year (including in FY 2017-2018, the FPFTY). Maintaining a days' cash on hand balance of 70 to 90 days at August 31st will be followed by a lower

8 Days of cash on hand calculation: Total Operating Expenses, less non-cash items, depreciation and amortized pensions, divided by 365, divided into cash balance.

9 Exhibit JFG-3 at Moody's Rating Action, August 8, 2016, p. 5 (Moody's forecasts that direct cash liquidity will remain in the 70 to 90 days range).

balance in the middle of PGW's fiscal year. Thus, the FPFTY's balance of just 36 days cash on hand at fiscal year-end would result in just 22.6 days of cash on hand ($30 million) at the low point in December of that year, leaving very little ability to respond to contingencies such as lower than pro forma sales or unanticipated expenditures.

Q. PLEASE DISCUSS PGW'S DEBT SERVICE COVERAGE RATIOS IN THE FPFTY AND IN THE FORECAST PERIOD.

A. Turning back to the first important financial metric, at present rates, PGW's debt service coverage ratios are just minimally above its Bond Ordinance coverage requirement of 1.5x in the FPFTY. This coverage calculation does not take account of certain cash obligations that are not in the operating expense section of the income statement, including the City Payment, and certain pension and OPEB obligations, all of which must be paid out of the cash that is part of the "coverage" in excess of the debt service. PGW's calculations show that it needs coverages at 2.0x and above in order to produce enough cash to be able to meet all of its obligations throughout the year, including the City Payment, pensions, OPEBs, capital funding from internally generated funds, and additional funds for working capital.

Q. PLEASE EXPLAIN PGW'S USE OF THE CASH GENERATED BY THE DEBT SERVICE COVERAGE RATIO REQUIREMENT IN EXCESS OF 1.0 TIMES COVERAGE.

A. Under the Bond Ordinance, PGW has a mandatory debt service coverage ratio of 1.5x the debt service, which is calculated by subtracting operating expenses from total funds available to derive total funds available to cover debt service. The cash generated by this ratio (funds available to cover debt service) is used to pay other expenses that do not appear on the Statement of Income, but influences the debt service coverage calculation. These payments include the $18.0 million City Payment, $18.5 million to the OPEB Trust Fund, $2.0 to $3.0 million to the pension fund, and $5.0 million towards retiree health care cost. Additionally, PGW continues to utilize internally generated funds ("IGF") for capital construction to reduce its dependence on long-term debt financing and contributes *approximately $50.0 million to $60.0 million towards IGF.* As of August 2016 this has saved PGW approximately $12.5 million in interest costs over the last five fiscal years.

Q. WOULD THE RATING AGENCIES VIEW A DEBT SERVICE COVERAGE LEVEL JUST ABOVE 1.5X AS CAUSE FOR A DOWNGRADE?

A. Yes, most definitely. The rating agencies calculate PGW coverages differently than in the Bond Ordinance, accurately treating the $18.0 million City Payment as a fixed obligation. When the Company's debt service coverage is calculated including the $18.0 million as a fixed obligation, PGW's debt service coverage falls to just above 1.3x in the FPFTY and drops to below 1.3x in the Forecast Period:

FPFTY	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
1.33	1.39	1.34	1.39	1.26

Since these coverage levels are materially below the 1.5-1.6x level that Moody's has observed for PGW, they would very likely cause a downgrade by Moody's, followed by similar negative ratings action by the other bond rating agencies. PGW Witness Hartman discusses this in detail in his testimony.

Borrowing Capacity And Internal Generation Of Funds

Q. HOW WOULD THESE FINANCIAL RESULTS AFFECT PGW'S ABILITY TO USE NON-DSIC INTERNALLY GENERATED FUNDS TO FUND CONSTRUCTION?

A. These financial results would reduce the IGF to below $30 million per year ($26.4 million in the FPFTY). This compares unfavorably to the level of non-DSIC IGF the Company experienced in FY 2015-2016 of $33.1. At this level of revenues PGW would not be able to maintain the 50/50 balance of funding for capital programs that the rating agencies have commented on with favor. The Company would have to either cut back on capital projects or issue more debt.

Q. WHY HAS PGW CHOSEN A FINANCING STRATEGY FOR CAPITAL SPENDING COMPRISED OF 50 PERCENT OF FUNDS FROM INTERNALLY GENERATED FUNDS AND 50 PERCENT OF FUNDS FROM DEBT?

A. PGW has chosen the financing strategy for capital spending comprised of 50 percent of funds from internally generated funds and 50 percent of funds from debt in order to spread out some payments over time rather than have the ratepayers finance all capital improvements on a "pay-go" basis. This combination financing strategy allows PGW to use long-term debt, its tax-exempt commercial paper program, and internally generated funds to finance the improvements to its infrastructure.

Q. IF PGW WERE FORCED TO UTILIZE DEBT FINANCING RATHER THAN INTERNALLY GENERATED FUNDS FOR THE NEXT FOUR YEARS WHAT WOULD THE IMPACT BE ON PROJECTED DEBT SERVICE AND THE DEBT SERVICE COVERAGE RATIO REQUIREMENT?

A. PGW would experience a decrease in its debt service coverage ratio for an incremental increase in debt service. Debt service on a bond issuance of $100.0 million at a composite rate of approximately 4% would be approximately $7.0

million per year. The bond covenant that mandates a 1.5x debt service coverage would require additional revenues of $10.5 million per year to take account of this requirement. After several bond issuances the debt service coverage requirement would exceed a "pay as you go" financing strategy. This significant savings to ratepayers over time is also why PGW does not finance its construction program using entirely long-term bonds. In addition, any increase in the level of debt PGW is already projecting will drive its debt to total capitalization ratio to unacceptable levels.

<u>Debt To Equity Ratio and Financial Performance</u>

Q. WHAT IS PGW'S PROJECTED DEBT TO TOTAL CAPITALIZATION RATIO FOR THE FULLY PROJECTED FUTURE TEST YEAR?

A. PGW's debt to total capitalization ratio in the FPFTY is approximately 90%, well above its actual level in the historic test year, 76.3%. While by FY 2022 the debt to total capitalization ratio is projected to move to 88.5%. PGW would be very concerned about increasing its debt burden, resulting in even higher levels of debt, if it were required to do so to compensate for reduced levels of available IGF. Recall that PGW has had a goal of reducing its debt to equity level to under <u>60%</u> of total capitalization, and the Commission Staff has opined that a level of 70% was not unreasonable.[10]

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[10] Pennsylvania Public Utility Commission, Staff Report: Inquiry into the Philadelphia Gas Works' Pipeline Replacement Program, dated April 21, 2015, p. 6, 44, 50.

Bond Ratings

Q. WHAT WOULD HAPPEN IF PGW WERE TO EXPERIENCE THE FINANCIAL RESULTS PROJECTED FOR THE FY 2018 FPFTY?

A. PGW would be in serious risk of not being able to meet its cash obligations—and absent some timely emergency action—having its debt service coverage levels fall below the level mandated in the Bond Ordinance. If either of these events occurred, it would be entirely realistic for the rating agencies to downgrade or put a negative outlook on PGW's bonds. Such adverse actions by the rating agencies would add to PGW's borrowing costs and could trigger increased rates on PGW's variable rate debt (the Fifth Series A-2 Bonds and the Eighth Series B, C, D and E Bonds). The increased costs and/or the Company's liquidity profile would limit PGW's reasonable access to capital markets. More importantly, the projected level of cash is not an adequate level for a firm with over $600.0 million in revenues and $500.0 million in operating expenses. If actual expenses were to exceed "normal" levels because of abnormally cold weather or an unanticipated spike in gas prices, PGW could be left having to rely on its limited short-term commercial paper for liquidity. Although PGW has the ability to issue up to $120.0 million of commercial paper on a short-term basis, this approach would add costs to customers and remove PGW's only source of short-term protection against a failure to be able to pay its bills when due.

Q. HOW DOES PGW CURRENTLY USE ITS COMMERCIAL PAPER?

A. Currently PGW utilizes its commercial paper for capital financing. This strategy allows PGW to hold off the issuance of long-term debt, thus putting off the associated costs, and also so that it can issue bonds at the optimal time relative to the long term bond market. Such optimal market timing can also reduce the costs of long term borrowing. Utilization of commercial paper for working capital would deny PGW the ability to reduce ratepayer costs by using the commercial paper for capital projects.

The Company would also have to seriously consider issuing more debt in order to continue its existing capital program. The Company does not believe that issuing more debt would be prudent or viewed with favor by the bond rating agencies. Cutting back on capital projects – the only other prudent alternative – would have a materially adverse effect on the ability of PGW to continue to modernize and increase the safety of its distribution network, as well as to attempt to improve customer service.

Q. WHAT ARE YOUR CONCLUSIONS BASED ON THE FINANCIAL RESULTS AT PRESENT RATES FOR THE FPFTY AND THE FORECAST PERIOD?

A. It is crucially important that PGW obtain rate relief in order to repair these financial indicators, as well as to have sufficient cash in order to prudently operate the Company. A failure to improve these results with additional revenues would almost certainly result in a bond rating downgrade, which would raise the costs of borrowing and limit PGW's access to capital markets.

Q. WHAT LEVEL OF RATE RELIEF DOES PGW REQUIRE TO MAINTAIN ITS FINANCIAL INDICATORS AT THE APPROPRIATE LEVELS AND HAVE SUFFICIENT CASH TO PRUDENTLY OPERATE THE COMPANY?

A. PGW has determined that an increase of $70.0 million would provide sufficient additional revenues to enable it to maintain its financial metrics at adequate levels and maintain its existing bond rating.

Q. HAVE YOU CALCULATED PGW'S FINANCIAL RESULTS IN THE FPFTY AS WELL AS IN THE FORECAST PERIOD IF ITS PROPOSED $70.0 MILLION RATE INCREASE IS GRANTED?

A. Yes, those results are shown on Exhibit JFG-2. At $70.0 million, PGW would have coverages that exceed 2.0x in the FPFTY and in the Forecast Period. Including the City Payment as an expense, PGW's coverage for the FPFTY would be almost at the desired 2.0x range, and would go above that minimum required level in subsequent years. As I indicated above, coverages at this level are required to permit PGW to have the funds it needs throughout the year to satisfy all of its obligations. The proposed rate increase would also produce about $114.0 million in year-end cash, or about 84 days of cash on hand at the end of the FPFTY. This is slightly better than the level that Moody's observed for PGW for FY 2015 (77 days of cash on hand) and is in the range (70 to 90 days) that Moody's has indicated it expects for a company rated at Baa1. This is consistent with Moody's August 2016 Credit Opinion. Finally, a $70.0 million rate increase would produce enough IGF so that PGW could continue to fund its construction budget from both long-term debt and IGF on an equal basis.

Q. HOW WOULD THE RATE INCREASE AFFECT PGW'S FINANCIAL PERFORMANCE DURING THE FORECAST PERIOD?

A. It would similarly keep PGW at the levels it was experiencing in the historic test year and the levels on which the rating agencies have commented favorably. For example, cash on hand would improve in FY 2018 to 85.7 days on hand and then slowly decrease to 57.3 days on hand in FY 2022. Debt service coverage would stay above 2.0x in the Forecast Period and PGW's debt to total capitalization would slowly modulate to 74% in FY 2022. This highlights the fact that any

Commission rate increase granted in 2017 will make steady improvement in PGW's financials because 100% of the excess over costs is retained by the Company. This is essentially what is shown by the improved cash flow and debt service numbers.

Q. ARE THERE CIRCUMSTANCES THAT COULD MATERIALLY AFFECT THE FINANCIAL INDICATORS THAT YOU HAVE PROJECTED?

A. Yes, PGW's pro forma income statement is calculated assuming a 4% bad debt expense rate and a 96% collection rate. These projections do not assume any material change in PGW's collection practices. However, there may be a material change in the FPFTY to one of its key tools – its ability to place a lien on properties where the delinquent customer of record is not the owner of the property. Part of the Company's collection strategy is to use its municipal lien ability to lien properties to secure overdue amounts, including locations at which tenants are responsible for the natural gas bill and the lien is placed on properties owned by landlords. PGW is typically paid for its lien upon transfer of the property or it can try to reduce the lien to a money judgment and execute on the judgment. In this way PGW can eventually obtain payment for at least some of these arrearages and reduce the bad debt expense that other customers otherwise would have to bear. At the present time, PGW collects about $22 million each year from accounts associated with liens. However, on January 5, 2017 a federal district judge issued a Permanent Injunction/Order that arrested PGW's ability to continue to lien properties where the customer of record was not the owner. While this decision is being appealed, at the present time, it is not clear how this ruling, as well as another PUC order affecting liened arrearages, will ultimately affect PGW's liening ability, and, correspondingly, its ability to collect these arrearages from the responsible parties. If PGW's liening ability with respect to non-owner occupied properties is materially reduced or otherwise affected, PGW's bad debt expense could increase by as much as one or more percentage points (i.e., from 4% to 5%, or greater). While PGW has not made an adjustment to its pro forma results to account for this potential at the present time, it reserves the right to do so if the effects of these legal proceedings become more "known and definite."

V. <u>CONCLUSION</u>

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Exhibit JFG-1

PHILADELPHIA GAS WORKS
STATEMENT OF INCOME
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	FTY 2016-17	FPFTY 2017-18	FORECAST 2018-19	FORECAST 2019-20	FORECAST 2020-21	FORECAST 2021-22	LINE NO.
	OPERATING REVENUES									
1.	Non-Heating	$ 30,753	$ 21,873	$ 26,425	$ 26,230	$ 25,378	$ 24,494	$ 23,651	$ 22,873	1
2.	Gas Transport Service	39,962	38,550	45,674	44,614	46,222	47,594	48,853	50,055	2.
3	Heating	618,164	472,275	524,234	534,832	543,666	552,484	561,520	571,396	3.
4	Weather Normalization Adjustment	(10,747)	41,479	5,905	-	-	-	-	-	4.
5	Unbilled Adjustment	(2,105)	(1,830)	1,673	315	104	83	119	109	5.
6.	Total Gas Revenues	676,027	572,347	603,911	605,991	615,370	624,655	634,143	644,433	6.
7.	Appliance Repair & Other Revenues	8,727	7,952	8,182	8,265	8,347	8,431	8,515	8,601	7.
8	Other Operating Revenues	12,493	10,928	13,023	12,757	12,903	13,044	13,186	13,339	8.
9.	Total Other Operating Revenues	21,220	18,890	21,205	21,022	21,250	21,475	21,701	21,940	9
10.	**Total Operating Revenues**	697,247	591,237	625,116	627,013	636,620	646,130	655,844	666,373	10.
	OPERATING EXPENSES									
11	Natural Gas	252,158	146,515	176,731	184,960	191,471	197,808	204,518	211,904	11.
12.	Other Raw Material	11	9	10	10	10	10	10	10	12.
13.	Sub-Total Fuel	252,169	146,524	176,741	184,970	191,481	197,818	204,528	211,914	13.
14.	**CONTRIBUTION MARGINS**	**445,078**	**444,713**	**448,375**	**442,043**	**445,139**	**448,312**	**451,316**	**454,459**	14.
15.	Gas Processing	18,180	17,948	17,866	17,521	17,837	18,216	18,457	18,857	15.
16.	Field Services	36,874	36,276	39,369	40,340	41,299	42,096	42,611	43,456	16
17.	Distribution	38,629	37,173	41,690	42,562	43,528	44,358	44,925	45,824	17.
18	Collection	3,457	3,341	4,354	4,420	4,519	4,609	4,651	4,695	18.
19.	Customer Service	12,262	12,432	13,503	13,807	14,126	14,408	14,627	14,919	19.
20.	Account Management	7,735	7,571	8,399	8,487	8,671	8,844	8,977	9,157	20
21.	Bad Debt Expense	34,833	27,133	30,654	26,956	27,639	28,347	28,804	28,834	21.
22.	Marketing	6,956	3,671	4,355	4,439	4,538	4,625	4,694	4,785	22.
23	Administrative & General	60,253	67,139	69,025	66,334	66,160	67,162	67,518	68,595	23
24	Health Insurance	51,051	53,370	58,305	30,811	33,641	36,627	39,880	43,424	24
25	Environmental Remediation	-	-	-	-	2,045	1,696	927	997	25.
26	Capitalized Fringe Benefits	(8,860)	(10,077)	(11,537)	(11,620)	(12,238)	(12,937)	(13,744)	(14,613)	26
27	Capitalized Administrative Charges	(9,097)	(10,778)	(15,791)	(12,945)	(13,738)	(13,409)	(14,032)	(15,579)	27
28	Pensions	43,748	62,336	65,022	51,800	40,308	39,678	22,691	20,383	28
29.	Taxes	7,823	7,521	8,232	8,437	8,647	8,821	8,997	9,177	29.
30.	Other Post Employment Benefits	6,725	9,929	6,632	31,028	29,663	28,023	26,045	23,683	30.
31.	Cost / Labor Savings	-	-	(2,073)	-	-	-	-	-	31.
32.	Sub-Total Other Operating & Maintenance	310,570	324,985	337,805	322,377	318,645	321,164	306,028	306,594	32.
33.	Depreciation	48,474	47,894	48,847	50,596	52,436	54,244	56,019	57,827	33.
34.	Cost of Removal	2,897	3,785	4,100	4,100	4,100	4,100	4,100	4,100	34.
35.	To Clearing Accounts	(5,584)	(6,231)	(6,771)	(7,516)	(7,562)	(7,579)	(7,219)	(7,186)	35
36	Net Depreciation	43,787	45,448	46,171	47,180	48,974	50,765	52,900	54,741	36.
37	**Sub-Total Other Operating Expenses**	354,357	370,433	383,976	369,557	365,619	371,929	358,928	361,335	37.
38.	**TOTAL OPERATING EXPENSES**	606,526	516,957	560,717	554,527	557,100	569,747	563,456	573,249	38
39	OPERATING INCOME	90,721	74,280	64,399	72,486	79,520	76,383	92,388	93,124	39.
40.	**Interest Gain / (Loss) and Other Income**	3,784	1,393	2,898	3,031	2,684	2,879	3,291	2,890	40.
41.	INCOME BEFORE INTEREST	94,505	75,673	67,297	75,517	82,204	79,262	95,679	96,014	41.
	INTEREST									
42.	Long-Term Debt	45,756	40,295	44,834	49,160	46,807	48,738	50,601	47,786	42.
43.	Other	7,448	3,966	(4,059)	(6,893)	(6,252)	(5,519)	(4,784)	(4,004)	43.
44.	AFUDC	(781)	(1,120)	(1,136)	(920)	(985)	(964)	(997)	(1,030)	44.
45.	Loss From Extinguishment of Debt	4,100	4,478	6,081	5,666	5,300	4,894	4,490	4,072	45.
46.	**Total Interest**	56,523	47,619	45,720	47,013	44,870	47,149	49,310	46,804	46
47.	**NET INCOME**	**37,982**	**28,054**	**21,577**	**28,504**	**37,334**	**32,113**	**46,369**	**49,210**	47.
48	City Payment	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	48.
49	**NET EARNINGS**	**$ 19,982**	**$ 10,054**	**$ 3,577**	**$ 10,504**	**$ 19,334**	**$ 14,113**	**$ 28,389**	**$ 31,210**	49

PHILADELPHIA GAS WORKS
CASH FLOW STATEMENT
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	FTY 2016-17	FPFTY 2017-18	FORECAST 2018-19	FORECAST 2019-20	FORECAST 2020-21	FORECAST 2021-22	LINE NO.
	SOURCES									
1	Net Income	$ 37,982	$ 28,054	$ 21,577	$ 28,504	$ 37,334	$ 32,113	$ 46,369	$ 49,210	1.
2.	Depreciation & Amortization	53,258	50,371	45,049	47,000	49,114	51,246	53,350	55,518	2.
3.	Earnings on Restricted Funds Withdrawal/(No Withdrawal)	7,051	23	(1,663)	(1,324)	(958)	(1,133)	(1,224)	(1,104)	3.
4	Proceeds from Bond Refunding to Pay Cost of Issuance	-	-	2,700	-	-	500	-	-	4
5.	Increased/(Decreased) Other Assets/Liabilities	23,696	28,209	29,078	(5,274)	(18,246)	(31,091)	(46,024)	(53,725)	5.
6.	Available From Operations	121,987	106,657	96,741	68,906	67,244	51,635	52,471	49,899	6.
7	Drawdown of Bond Proceeds	-	-	65,000	52,000	57,000	55,000	57,000	59,000	7
8	Release of Restricted Fund Assets	8,562	6,673	-	-	-	-	-	-	8
9.	Release of Bond Proceeds to Pay Temporary Financing	-	-	71,000	-	-	-	-	-	9.
10	Temporary Financing	30,000	41,000	-	-	-	-	-	-	10
11.	TOTAL SOURCES	160,549	154,330	232,741	120,906	124,244	106,635	109,471	108,899	11
	USES									
12.	Net Construction Expenditures	85,499	100,333	132,632	109,010	115,628	113,149	117,009	120,996	12.
13.	Funded Debt Reduction:	13,503	-	-	-	-	-	-	-	13.
14.	Revenue Bonds	62,190	53,825	34,790	51,834	47,747	62,905	44,084	57,749	14
15.	Temporary Financing Repayment	-	-	71,000	-	-	-	-	-	15.
16.	Distribution of Earnings	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	16
	Additions To (Reductions of)									
17	Non-Cash Working Capital	(27,236)	4,756	(37,738)	423	1,149	(2,783)	(564)	175	17.
18.	Cash Needs	151,956	176,914	218,684	179,267	182,524	191,271	178,529	196,920	18.
19	Cash Surplus (Shortfall)	8,593	(22,584)	14,057	(58,361)	(58,280)	(84,636)	(69,058)	(88,021)	19
20.	TOTAL USES	160,549	154,330	232,741	120,906	124,244	106,635	109,471	108,899	20
21	Cash - Beginning of Period	105,734	114,327	91,743	105,800	47,439	(10,841)	(95,477)	(164,535)	21
22	Cash - Surplus (Shortfall)	8,593	(22,584)	14,057	(58,361)	(58,280)	(84,636)	(69,058)	(88,021)	22
23.	ENDING CASH	$ 114,327	$ 91,743	105,800	$ 47,439	$ (10,841)	$ (95,477)	$ (164,535)	$ (252,555)	23.
24.	**Outstanding Commercial Paper**	-	-	-	-	-	-	-	-	24.
25	**Outstanding Commercial Paper - Capital**	30,000	71,000	-	-	-	-	-	-	25
26.	**DSIC Revenue**	13,764	26,253	32,541	30,579	30,895	31,214	31,518	31,846	26.
27	**Internally Generated Funds**	31,735	33,080	35,091	26,431	27,733	26,935	28,491	30,150	27
28.	**TOTAL IGF + Incremental DSIC Revenue**	45,499	59,333	67,632	57,010	58,628	58,149	60,009	61,996	28

PHILADELPHIA GAS WORKS
DEBT SERVICE COVERAGE
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	FTY 2016-17	FPFTY 2017-18	FORECAST 2018-19	FORECAST 2019-20	FORECAST 2020-21	FORECAST 2021-22	LINE NO.
	FUNDS PROVIDED									
1.	Total Gas Revenues	$ 676,027	$ 572,347	$ 603,911	$ 605,991	$ 615,370	$ 624,655	$ 634,143	$ 644,433	1.
2.	Other Operating Revenues	21,220	18,890	21,205	21,022	21,250	21,475	21,701	21,940	2.
3	Total Operating Revenues	697,247	591,237	625,116	627,013	636,620	646,130	655,844	666,373	3.
4.	Other Income Incr / (Decr.) Restricted Funds	10,835	1,416	1,235	1,707	1,726	1,746	2,067	1,786	4.
5	City Grant	-	-	-	-	-	-	-	-	5.
6	AFUDC (Interest)	781	1,120	1,136	920	985	964	997	1,030	6.
7	TOTAL FUNDS PROVIDED	708,863	593,773	627,487	629,640	639,331	648,840	658,908	669,189	7.
	FUNDS APPLIED									
8	Fuel Costs	252,169	146,524	176,741	184,970	191,481	197,818	204,528	211,914	8
9	Other Operating Costs	354,357	370,433	383,976	369,557	365,619	371,929	358,928	361,335	9.
10.	Total Operating Expenses	606,526	516,957	560,717	554,527	557,100	569,747	563,456	573,249	10
11	Less: Non-Cash Expenses	74,535	89,059	92,630	78,214	68,463	69,770	55,503	55,924	11.
12.	TOTAL FUNDS APPLIED	531,991	427,898	468,087	476,313	488,637	499,977	507,953	517,325	12.
13.	Funds Available to Cover Debt Service	176,872	165,875	159,400	153,327	150,894	148,863	150,955	151,864	13.
14.	1975 Ordinance Bonds Debt Service	26,904	-	-	-	-	-	-	-	14.
15.	**Debt Service Coverage 1975 Bonds**	**6.57**	-	-	-	-	-	-	-	15.
16.	Net Available after Prior Debt Service	149,968	165,875	159,400	153,327	150,694	148,863	150,955	151,864	16
17	Equipment Leasing Debt Service	-	-	-	-	-	-	-	-	17
18.	Net Available after Prior Capital Leases	149,968	165,875	159,400	153,327	150,694	148,863	150,955	151,864	18.
19.	1998 Ordinance Bonds Debt Service	70,139	77,867	66,868	101,720	95,276	97,858	95,459	106,342	19.
20.	1999 Ordinance Subordinate Bonds Debt Service - (TXCP)	-	-	-	-	-	-	-	-	20
21.	Total 1998 Ordinance Debt Service	70,139	77,867	66,868	101,720	95,276	97,858	95,459	106,342	21.
22.	**Debt Service Coverage 1998 Bonds**	**2.14**	**2.13**	**2.38**	**1.51**	**1.58**	**1.52**	**1.58**	**1.43**	22.
23	Net Available after 1998 Debt Service	79,829	88,008	92,532	51,607	55,418	51,005	55,496	45,522	23.
24.	Aggregate Debt Service	97,043	77,867	66,868	101,720	95,276	97,858	95,459	106,342	24
25.	Debt Service Coverage (Combined liens)	1.82	2.13	2.38	1.51	1.58	1.52	1.58	1.43	25
26.	Debt Service Coverage (Combined liens with $18.0 City Fee)	**1.64**	**1.90**	**2.11**	**1.33**	**1.39**	**1.34**	**1.39**	**1.26**	26

PHILADELPHIA GAS WORKS
BALANCE SHEET
(Dollars in Thousands)

LINE NO.		ACTUAL 8/31/15	HTY 8/31/16	FTY 8/31/17	FPFTY 8/31/18	FORECAST 8/31/19	FORECAST 8/31/20	FORECAST 8/31/21	FORECAST 8/31/22	LINE NO.
	ASSETS									
1.	Utility Plant Net	1,232,370	1,284,810	1,368,600	1,427,014	1,490,206	1,549,111	1,610,101	1,673,270	1
2.	Sinking Fund Reserve	90,141	86,652	105,196	106,253	107,320	120,248	121,456	122,676	2.
3.	Capital Improvement Fund	-	-	113,603	61,864	4,742	117,435	60,431	1,295	3
	Workers' Compensation Fund									
4.	& Health Insurance Escrow	5,820	2,603	2,610	2,616	2,629	2,642	2,662	2,682	4.
5.	Cash	114,327	91,743	105,800	47,439	(10,841)	(95,477)	(164,535)	(252,555)	5.
	Accounts Receivable:									
6.	Gas	182,433	142,435	136,100	133,168	129,686	126,572	122,911	119,664	6.
7.	Other	1,250	2,046	1,500	1,525	1,550	1,575	1,600	1,625	7.
8.	Accrued Gas Revenues	5,199	3,368	5,041	5,356	5,460	5,543	5,662	5,771	8.
9.	Reserve for Uncollectible	(102,029)	(74,286)	(71,890)	(70,484)	(68,805)	(67,813)	(66,338)	(64,880)	9.
10.	Total Accounts Receivable:	86,853	73,563	70,751	69,565	67,891	65,877	63,835	62,180	10.
11.	Materials & Supplies	50,908	47,891	47,005	49,220	50,734	52,002	53,509	54,872	11.
12.	Other Current Assets	460	1,642	455	459	463	467	471	475	12.
13.	Deferred Debits	13,135	29,376	4,782	4,987	4,489	4,464	4,348	4,311	13.
14.	Unamortized Bond Issuance Expense	3,473	512	393	341	303	270	241	215	14.
15.	Unamortized Loss on Reacquired Debt	30,953	53,946	47,865	42,199	36,899	32,005	27,515	23,443	15.
16.	Deferred Environmental	29,609	28,425	28,767	28,767	26,722	25,026	24,099	23,102	16.
17.	Deferred Pension Outflows	78,129	88,043	41,908	13,952	-	-	-	-	17.
18.	Other Assets	35,503	24,357	39,720	40,604	42,007	43,378	44,799	46,216	18.
19.	**TOTAL ASSETS**	1,771,681	1,813,563	1,977,455	1,895,280	1,823,564	1,917,448	1,848,932	1,762,182	19.
	EQUITY & LIABILITIES									
20.	City Equity	277,984	288,038	30,427	40,931	60,265	74,378	102,747	133,957	20.
21.	Revenue Bonds	915,175	837,830	1,073,041	1,021,208	973,460	1,090,557	1,046,473	988,724	21.
	TECA Accretions	-								
22.	Unamortized Discount	(787)	(110)	(875)	(825)	(778)	(732)	(686)	(641)	22.
23.	Unamortized Premium	43,360	88,703	78,667	69,303	60,595	52,623	45,389	38,938	23.
24.	Long Term Debt	957,748	926,423	1,150,833	1,089,686	1,033,277	1,142,448	1,091,176	1,027,021	24.
25.	Notes Payable	30,000	71,000	-	-	-	-	-	-	25.
26.	Accounts Payable	56,027	55,870	56,084	57,221	57,434	56,011	56,216	56,144	26.
27.	Customer Deposits	2,858	3,308	3,000	2,870	2,747	2,630	2,519	2,413	27.
28.	Other Current Liabilities	6,196	7,792	4,930	4,932	4,936	4,941	4,946	4,922	28.
29.	Pension Liability	239,869	296,093	291,253	285,870	280,051	274,416	267,534	260,380	29.
30.	Deferred Credits	7,895	5,999	2,091	4,497	2,791	2,018	2,084	2,080	30.
31.	Deferred Pension Inflows	11,653	-	-	-	2,813	11,120	12,290	12,302	31.
32.	Accrued Interest	6,709	2,808	15,564	14,839	14,117	17,903	17,129	16,303	32.
33.	Accrued Taxes & Wages	3,342	3,609	5,975	4,100	4,631	5,170	5,696	6,228	33.
34.	Accrued Distribution to City	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	34.
35.	Other Liabilities	168,400	149,623	414,298	387,334	357,502	323,413	283,595	237,432	35.
36.	**TOTAL EQUITY & LIABILITIES**	1,771,681	1,813,563	1,977,455	1,895,280	1,823,564	1,917,448	1,848,932	1,762,182	36.
	CAPITALIZATION									
37.	Total Capitalization	1,235,732	1,214,461	1,181,260	1,130,617	1,093,542	1,216,826	1,193,923	1,160,978	37.
38.	Total Long Term Debt	957,748	926,423	1,150,833	1,089,686	1,033,277	1,142,448	1,091,176	1,027,021	38.
39.	Debt to Equity Ratio	77.50%	76.28%	97.42%	96.38%	94.49%	93.89%	91.39%	88.46%	39.
40.	Capitalization Ratio	3.45	3.22	37.82	26.62	17.15	15.36	10.62	7.67	40.

Exhibit JFG-2

PHILADELPHIA GAS WORKS
STATEMENT OF INCOME
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	FTY 2016-17	FPFTY 2017-18	FORECAST 2018-19	FORECAST 2019-20	FORECAST 2020-21	FORECAST 2021-22	LINE NO.
	OPERATING REVENUES									
1.	Non-Heating	$ 30,753	$ 21,873	$ 26,425	$ 26,230	$ 25,378	$ 24,494	$ 23,651	$ 22,873	1.
2.	Gas Transport Service	39,962	38,550	45,674	44,614	46,222	47,594	48,853	50,055	2
3.	Heating	618,164	472,275	524,234	534,832	543,666	552,484	561,520	571,396	3.
4.	Revenue Enhancement / Cost Reduction	-	-	-	70,000	70,000	70,000	70,000	70,000	4.
5.	Weather Normalization Adjustment	(10,747)	41,479	5,905	-	-	-	-	-	5.
6.	Unbilled Adjustment	(2,105)	(1,830)	1,673	315	104	83	119	109	6
7.	Total Gas Revenues	676,027	572,347	603,911	675,991	685,370	694,655	704,143	714,433	7.
8.	Appliance Repair & Other Revenues	8,727	7,962	8,182	8,265	8,347	8,431	8,515	8,601	8
9.	Other Operating Revenues	12,493	10,928	13,023	12,757	12,903	13,044	13,186	13,339	9.
10	Total Other Operating Revenues	21,220	18,890	21,205	21,022	21,250	21,475	21,701	21,940	10.
11	**Total Operating Revenues**	697,247	591,237	625,116	697,013	706,620	716,130	725,844	736,373	11.
	OPERATING EXPENSES									
12.	Natural Gas	252,158	146,515	176,731	184,960	191,471	197,808	204,518	211,904	12.
13.	Other Raw Material	11	9	10	10	10	10	10	10	13
14.	Sub-Total Fuel	252,169	146,524	176,741	184,970	191,481	197,818	204,528	211,914	14.
15	**CONTRIBUTION MARGINS**	**445,078**	**444,713**	**448,375**	**512,043**	**516,139**	**518,312**	**521,316**	**524,459**	15
16	Gas Processing	18,160	17,948	17,666	17,521	17,837	18,216	18,457	18,857	16.
17	Field Services	36,874	36,278	39,369	40,340	41,299	42,096	42,611	43,456	17.
18.	Distribution	38,629	37,173	41,690	42,562	43,528	44,358	44,925	45,824	18
19.	Collection	3,457	3,341	4,354	4,420	4,519	4,609	4,651	4,695	19.
20.	Customer Service	12,262	12,432	13,503	13,807	14,126	14,408	14,627	14,919	20.
21	Account Management	7,735	7,571	8,399	8,487	8,671	8,844	8,977	9,157	21.
22.	Bad Debt Expense	34,833	27,133	30,654	30,073	30,784	31,524	31,984	31,967	22
23.	Marketing	6,956	3,671	4,355	4,439	4,538	4,625	4,694	4,785	23.
24	Administrative & General	60,253	67,139	69,025	66,334	66,160	67,162	67,518	68,595	24
25.	Health Insurance	51,051	53,370	58,305	30,811	33,641	36,627	39,880	43,424	25.
26.	Environmental	-	-	-	-	2,045	1,696	927	997	26.
27.	Capitalized Fringe Benefits	(8,860)	(10,077)	(11,537)	(11,620)	(12,238)	(12,937)	(13,744)	(14,613)	27
28.	Capitalized Administrative Charges	(9,097)	(10,778)	(15,791)	(12,945)	(13,738)	(13,409)	(14,032)	(15,579)	28.
29.	Pensions	43,748	62,336	65,022	51,800	40,308	39,678	22,691	20,383	29.
30.	Taxes	7,823	7,521	8,232	8,437	8,647	8,821	8,997	9,177	30.
31.	Other Post Employment Benefits	6,726	9,929	6,832	31,028	29,663	28,023	26,045	23,683	31.
32.	Cost / Labor Savings	-	-	(2,073)	-	-	-	-	-	32
33	Sub-Total Other Operating & Maintenance	310,570	324,985	337,805	325,494	319,790	324,341	309,208	309,727	33
34.	Depreciation	46,474	47,894	48,842	50,596	52,436	54,244	56,019	57,827	34.
35.	Cost of Removal	2,897	3,785	4,100	4,100	4,100	4,100	4,100	4,100	35.
36.	To Clearing Accounts	(5,584)	(6,231)	(6,771)	(7,516)	(7,562)	(7,579)	(7,219)	(7,186)	36.
37	Net Depreciation	43,787	45,448	46,171	47,180	48,974	50,765	52,900	54,741	37
38	**Sub-Total Other Operating Expenses**	354,357	370,433	383,976	372,674	368,764	375,106	362,108	364,468	38.
39.	**TOTAL OPERATING EXPENSES**	606,526	516,957	560,717	557,644	560,245	572,924	566,636	576,382	39
40.	OPERATING INCOME	90,721	74,280	64,399	139,369	146,375	143,206	159,208	159,991	40
41	**Interest Gain / (Loss) and Other Income**	3,784	1,393	2,898	3,031	2,684	2,879	3,291	2,890	41
42.	INCOME BEFORE INTEREST	94,505	75,673	67,297	142,400	149,059	146,085	162,499	162,881	42.
	INTEREST									
43.	Long-Term Debt	45,756	40,295	44,834	49,160	46,807	48,738	50,601	47,766	43
44.	Other	7,448	3,966	(4,059)	(6,893)	(6,252)	(5,519)	(4,784)	(4,004)	44
45.	AFUDC	(781)	(1,120)	(1,136)	(920)	(985)	(964)	(997)	(1,030)	45.
46.	Loss From Extinguishment of Debt	4,100	4,478	6,081	5,666	5,300	4,894	4,490	4,072	46
47.	**Total Interest**	56,523	47,619	45,720	47,013	44,870	47,149	49,310	46,804	47.
48.	**NET INCOME**	37,982	28,054	21,577	95,387	104,189	98,936	113,189	116,077	48.
49	City Payment	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	49.
50.	**NET EARNINGS**	$ 19,982	$ 10,054	$ 3,577	$ 77,387	$ 86,189	$ 80,936	$ 95,189	$ 98,077	50

PHILADELPHIA GAS WORKS
CASH FLOW STATEMENT
(Dollars In Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	FTY 2016-17	FPFTY 2017-18	FORECAST 2018-19	FORECAST 2019-20	FORECAST 2020-21	FORECAST 2021-22	LINE NO.
	SOURCES									
1	Net Income	$ 37,982	$ 28,054	$ 21,577	$ 95,387	$ 104,189	$ 98,936	$ 113,189	$ 116,077	1
2.	Depreciation & Amortization	53,258	50,371	45,049	47,000	49,114	51,246	53,350	55,518	2
3.	Earnings on Restricted Funds Withdrawal/(No Withdrawal	7,051	23	(1,663)	(1,324)	(958)	(1,133)	(1,224)	(1,104)	3
4.	Proceeds from Bond Refunding to Pay Cost of Issuance	-		2,700	-	-	500	-	-	4
5.	Increased/(Decreased) Other Assets/Liabilities	23,696	28,209	29,078	(5,274)	(18,246)	(31,091)	(46,024)	(53,725)	5
6.	Available From Operations	121,987	106,657	96,741	135,789	134,099	118,458	119,291	116,766	6
7	Drawdown of Bond Proceeds	-	-	65,000	52,000	57,000	55,000	57,000	59,000	7
8.	Release of Restricted Fund Asset	8,562	6,673	-	-	-	-	-	-	8
9.	Release of Bond Proceeds to Pay Temporary Financing	-	-	71,000	-	-	-	-	-	9.
10.	Temporary Financing	30,000	41,000	-	-	-	-	-	-	10
11	TOTAL SOURCES	160,549	154,330	232,741	187,789	191,099	173,458	176,291	175,766	11
	USES									
12	Net Construction Expenditures	85,499	100,333	132,632	109,010	115,628	113,149	117,009	120,996	12
13	Funded Debt Reduction:	13,503	-	-	-	-	-	-	-	13
14	Revenue Bonds	62,190	53,825	34,790	51,834	47,747	62,905	44,084	57,749	14
15.	Temporary Financing Repayment	-	-	71,000	-	-	-	-	-	15
16	Distribution of Earnings	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	16.
	Additions To (Reductions of)									
17	Non-Cash Working Capital	(27,236)	4,756	(37,738)	188	886	(3,078)	(862)	(76)	17
18.	Cash Needs	151,956	176,914	218,684	179,032	182,261	190,976	178,231	196,669	18.
19.	Cash Surplus (Shortfall)	8,593	(22,584)	14,057	8,757	8,838	(17,518)	(1,940)	(20,903)	19.
20	TOTAL USES	160,549	154,330	232,741	187,789	191,099	173,458	176,291	175,766	20.
21	Cash - Beginning of Period	105,734	114,327	91,743	105,800	114,557	123,395	105,877	103,937	21
22	Cash - Surplus (Shortfall)	8,593	(22,584)	14,057	8,757	8,838	(17,518)	(1,940)	(20,903)	22
23	**ENDING CASH**	$ 114,327	$ 91,743	105,800	$ 114,557	$ 123,395	$ 105,877	$ 103,937	$ 83,035	23
24	**Outstanding Commercial Paper**	-	-	-	-	-	-	-	-	24.
25	**Outstanding Commercial Paper - Capital**	30,000	71,000	-	-	-	-	-	-	25.
26.	**DSIC Revenue**	13,764	26,253	32,541	30,579	30,895	31,214	31,518	31,846	26
27	**Internally Generated Funds**	31,735	33,080	35,091	26,431	27,733	26,935	28,491	30,150	27
28	**TOTAL IGF + Incremental DSIC Revenue**	45,499	59,333	67,632	57,010	58,628	58,149	60,009	61,996	28

PHILADELPHIA GAS WORKS
DEBT SERVICE COVERAGE
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	FTY 2016-17	FPFTY 2017-18	FORECAST 2018-19	FORECAST 2019-20	FORECAST 2020-21	FORECAST 2021-22	LINE NO.
	FUNDS PROVIDED									
1	Total Gas Revenues	$ 676,027	$ 572,347	$ 603,911	$ 675,991	$ 685,370	$ 694,655	$ 704,143	$ 714,433	1
2.	Other Operating Revenues	21,220	18,890	21,205	21,022	21,250	21,475	21,701	21,940	2
3	Total Operating Revenues	697,247	591,237	625,116	697,013	706,620	716,130	725,844	736,373	3.
4	Other Income Incr. / (Decr.) Restricted Funds	10,835	1,416	1,235	1,707	1,726	1,746	2,067	1,786	4.
5.	City Grant	-	-	-	-	-	-	-	-	5.
6.	AFUDC (Interest)	781	1,120	1,136	920	985	964	997	1,030	6.
7	TOTAL FUNDS PROVIDED	708,863	593,773	627,487	699,640	709,331	718,840	728,908	739,189	7.
	FUNDS APPLIED									
8.	Fuel Costs	252,169	146,524	176,741	184,970	191,481	197,818	204,528	211,914	8
9.	Other Operating Costs	354,357	370,433	383,976	372,674	368,764	375,106	362,108	364,468	9
10.	Total Operating Expenses	606,526	516,957	560,717	557,644	560,245	572,924	566,636	576,382	10.
11.	Less: Non-Cash Expenses	74,535	89,059	92,630	78,214	68,463	69,770	55,503	55,924	11
12.	TOTAL FUNDS APPLIED	531,991	427,898	468,087	479,430	491,782	503,154	511,133	520,458	12.
13.	Funds Available to Cover Debt Service	176,872	165,875	159,400	220,210	217,549	215,686	217,775	218,731	13.
14.	1975 Ordinance Bonds Debt Service	26,904	-	-	-	-	-	-	-	14.
15	**Debt Service Coverage 1975 Bonds**	**6.57**	-	-	-	-	-	-	-	15.
16	Net Available after Prior Debt Service	149,968	165,875	159,400	220,210	217,549	215,686	217,775	218,731	16.
17	Equipment Leasing Debt Service	-	-	-	-	-	-	-	-	17
18.	Net Available after Prior Capital Leases	149,968	165,875	159,400	220,210	217,549	215,686	217,775	218,731	18.
19.	1998 Ordinance Bonds Debt Service	70,139	77,867	66,888	101,720	95,276	97,858	95,459	106,342	19
20	1999 Ordinance Subordinate Bonds Debt Service - (TXCF	-	-	-	-	-	-	-	-	20
21.	Total 1998 Ordinance Debt Service	70,139	77,867	66,868	101,720	95,276	97,858	95,459	106,342	21
22	**Debt Service Coverage 1998 Bonds**	**2.14**	**2.13**	**2.38**	**2.16**	**2.28**	**2.20**	**2.28**	**2.06**	22.
23	Net Available after 1998 Debt Service	79,829	88,008	92,532	118,490	122,273	117,828	122,316	112,389	23.
24.	Aggregate Debt Service	97,043	77,867	66,868	101,720	95,276	97,858	95,459	106,342	24
25.	Debt Service Coverage (Combined liens)	1.82	2.13	2.38	2.16	2.28	2.20	2.28	2.06	25.
26.	Debt Service Coverage (Combined liens with $18.0 City F	**1.64**	**1.90**	**2.11**	**1.99**	**2.09**	**2.02**	**2.09**	**1.89**	26.

PHILADELPHIA GAS WORKS
BALANCE SHEET
(Dollars in Thousands)

LINE NO.		ACTUAL 8/31/15	HTY 8/31/16	FTY 8/31/17	FPFTY 8/31/18	FORECAST 8/31/19	FORECAST 8/31/20	FORECAST 8/31/21	FORECAST 8/31/22	LINE NO.
	ASSETS									
1.	Utility Plant Net	1,232,370	1,284,810	1,368,600	1,427,014	1,490,206	1,549,111	1,610,101	1,673,270	1.
2.	Sinking Fund Reserve	90,141	86,652	105,196	106,253	107,320	120,248	121,456	122,676	2.
3.	Capital Improvement Fund	-	-	113,603	61,864	4,742	117,435	60,431	1,295	3.
	Workers' Compensation Fund									
4.	& Health Insurance Escrow	5,820	2,603	2,610	2,616	2,629	2,642	2,662	2,682	4.
5.	Cash	114,327	91,743	105,800	114,557	123,395	105,877	103,937	83,035	5.
	Accounts Receivable:									
6.	Gas	182,433	142,435	136,100	132,838	128,969	125,516	121,461	117,870	6.
7.	Other	1,250	2,046	1,500	1,525	1,550	1,575	1,600	1,625	7.
8.	Accrued Gas Revenues	5,199	3,368	5,041	5,356	5,460	5,543	5,662	5,771	8.
9.	Reserve for Uncollectible	(102,029)	(74,286)	(71,890)	(70,389)	(68,586)	(67,550)	(65,979)	(64,428)	9.
10.	Total Accounts Receivable:	86,853	73,563	70,751	69,330	67,393	65,084	62,744	60,838	10.
11.	Materials & Supplies	50,908	47,891	47,005	49,220	50,734	52,002	53,509	54,872	11.
12.	Other Current Assets	460	1,642	455	459	463	467	471	475	12.
13.	Deferred Debits	13,135	29,376	4,782	4,987	4,489	4,464	4,348	4,311	13.
14.	Unamortized Bond Issuance Expense	3,473	512	393	341	303	270	241	215	14.
15.	Unamortized Loss on Reacquired Debt	30,953	53,946	47,865	42,199	36,899	32,005	27,515	23,443	15.
16.	Deferred Environmental	29,609	28,425	28,767	28,767	26,722	25,026	24,099	23,102	16.
17.	Deferred Pension Outflows	78,129	88,043	41,908	13,952	-	-	-	-	17.
18.	Other Assets	35,503	24,357	39,720	40,604	42,007	43,378	44,799	46,216	18.
19.	**TOTAL ASSETS**	1,771,681	1,813,563	1,977,455	1,962,163	1,957,302	2,118,009	2,116,313	2,096,430	19.
	EQUITY & LIABILITIES									
20.	City Equity	277,984	288,038	30,427	107,814	194,003	274,939	370,128	468,205	20.
21.	Revenue Bonds	915,175	837,830	1,073,041	1,021,208	973,460	1,090,557	1,046,473	988,724	21.
	TECA Accretions	-								
22.	Unamortized Discount	(787)	(110)	(875)	(825)	(778)	(732)	(686)	(641)	22.
23.	Unamortized Premium	43,360	88,703	78,667	69,303	60,595	52,623	45,389	38,938	23.
24.	Long Term Debt	957,748	926,423	1,150,833	1,089,686	1,033,277	1,142,448	1,091,176	1,027,021	24.
25.	Notes Payable	30,000	71,000	-	-	-	-	-	-	25.
26.	Accounts Payable	56,027	55,870	56,084	57,221	57,434	56,011	56,216	56,144	26.
27.	Customer Deposits	2,858	3,308	3,000	2,870	2,747	2,630	2,519	2,413	27.
28.	Other Current Liabilities	6,196	7,792	4,930	4,932	4,936	4,941	4,946	4,922	28.
29.	Pension Liability	239,869	296,093	291,253	285,870	280,051	274,416	267,534	260,380	29.
30.	Deferred Credits	7,895	5,999	2,091	4,497	2,791	2,018	2,084	2,080	30.
31.	Deferred Pension Inflows	11,653	-	-	-	2,813	11,120	12,290	12,302	31.
32.	Accrued Interest	6,709	2,808	15,564	14,839	14,117	17,903	17,129	16,303	32.
33.	Accrued Taxes & Wages	3,342	3,609	5,975	4,100	4,631	5,170	5,696	6,228	33.
34.	Accrued Distribution to City	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	34.
35.	Other Liabilities	168,400	149,623	414,298	387,334	357,502	323,413	283,595	237,432	35.
36.	**TOTAL EQUITY & LIABILITIES**	1,771,681	1,813,563	1,977,455	1,962,163	1,957,302	2,118,009	2,116,313	2,096,430	36.
	CAPITALIZATION									
37.	Total Capitalization	1,235,732	1,214,461	1,181,260	1,197,500	1,227,280	1,417,387	1,461,304	1,495,226	37.
38.	Total Long Term Debt	957,748	926,423	1,150,833	1,089,686	1,033,277	1,142,448	1,091,176	1,027,021	38.
39.	Debt to Equity Ratio	77.50%	76.28%	97.42%	91.00%	84.19%	80.60%	74.67%	68.69%	39.
40	Capitalization Ratio	3.45	3.22	37.82	10.11	5.33	4.16	2.95	2.19	40.

Exhibit JFG-3

EXHIBIT
R-2017-2586783
PGW-JFG-3
6-28-17 EP PHL

MOODY'S
INVESTORS SERVICE

CREDIT OPINION
8 August 2016

New Issue

Rate this Research

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Philadelphia (City of) PA Gas Works

New Sale: Moody's revises PGW's outlook to positive; Assigns Baa1 to $220 mil Gas Works Rev. Refunding Bds., 14th Series

Moody's Investors Service has revised the outlook to positive from stable and assigned a Baa1 rating to the Philadelphia Gas Work's (PGW) $220 million Gas Works Revenue Refunding Bonds, Fourteenth Series (1998 General Ordinance). Concurrently, Moody's has affirmed the Baa1 rating on approximately $903 million of PGW's pre-refunding 1998 Ordinance bonds outstanding.

Summary Rating Rationale

The change in outlook to positive from stable recognizes PGW's strengthened financial position that is expected to continue owing to sound operational and cost management, a solid liquidity position and credit supportive rate regulation that improves cost recovery, evidenced by the further increase in the distribution system improvement charge (DSIC) that allows for greater cash funding of ongoing capital expenditures

PGW's rating recognizes the utility's credit supportive regulatory environment that has increased the utility's asset base and supported an acceleration to its main replacement program; a stable financial position that is expected to be maintained; a sizeable low income and stagnant customer base; and the utility's position as a supplier of last resort, which yields consistently above average retail rates. The rating also incorporates the utility's sound management that has enhanced PGW's operating efficiencies resulting in recurring cost savings. The rating further considers PGW's outstanding indebtedness which has declined in recent years but is forecast to rise given the issuance of new debt to finance capital improvements through 2020. The moderately higher leverage profile is manageable given about $50 million of annual principal amortization, a declining debt service repayment schedule, and the fact that assets will be added to the balance sheet from the capital improvement program.

PGW's state rate regulation constrains its cost recovery framework in comparison to the majority of municipally owned gas utilities in the US, which benefit from local unregulated rate setting. Thus, the rating heavily factors the constructive relationship PGW has with the Pennsylvania Public Utility Commission (PUC) and the fact that the PUC must approve rates sufficient for PGW to satisfy its indenture required 1.5 times debt service coverage ratio (DSCR) rate covenant.

Rating Outlook

The positive outlook reflects Moody's view that PGW's sound fiscal management and credit supportive regulatory environment should continue to result in stable financial metrics and improved operations despite a forecast increase in leverage related to ongoing capital expenditures as well as the execution of the Liquefied Natural Gas (LNG) expansion project.

Factors that Could Lead to an Upgrade

» Prudent management of the potential LNG expansion project

» PGW's financial metrics are maintained at or near current levels

Factors that Could Lead to a Downgrade

» Financial metrics narrow due to higher than expected costs and/or weaker revenue collections

» A less credit supportive rate regulatory environment

» Increased leverage without sufficient cost recovery or a material decline in liquidity

Credit Strengths

» Supportive rate regulatory environment and history of an effective working relationship with the state regulatory board and the City of Philadelphia (A2, stable)

» Strong 1.5 times rate covenant and The Public Utility Code requires the state regulatory board to establish rates that meet bond ordinance requirements

» Ongoing operating improvements contain costs and support PGW's recent financial improvement

» Low natural gas prices, strategic location of its LNG assets, and significant storage capacity allow for effective gas cost management and has already yielded new revenues from off-system LNG sales since 2013

» Aggressive strategy for collections of receivables has yielded strong and stable collection rates above 95%, except for a decline to 91.9% in FY 2013, reportedly due to timing differences in the calculation

» The City can only increase the $18 million City payment by 10% or $1.8 million with PUC approval

Credit Challenges

» Sizable low income residential population contributes to delinquencies that may grow if federal assistance programs are cut and these residents face higher monthly bills

» Customer base remains stagnant, despite the city's expanding economy and declining unemployment rate

» Above average retail rates compared to peers

» High system leverage, while declining, is expected to remain above average, despite increased cash funded capital expenditures

» Maintaining sufficient available liquidity to balance exposures to gas prices, variable rate debt liquidity risks, high receivable levels and other general liquidity needs

Key Indicators

Exhibit 1

Key Financial Metrics for Philadelphia Gas Works

	2012	2013	2014	2015
Operating Revenues ($'000)	644,983	693,471	759,136	697,247
Debt Outstanding ($'000)	1,093,440	1,065,720	1,015,920	915,175
Debt to Operating Revenue (x)	1.70	1.54	1.34	1.31
Days Cash on Hand	54	69	65	77
Adjusted Days Liquidity on Hand (incl. Bank Lines)	97	110	138	138
Moody's Net Revenue Total Debt Service Coverage Ratio (x)	1.25	1.89	1.55	1.51
Bond Ordinance Total Debt Service Coverage Ratio (x)	1.75	2.90	2.11	2.14

Source: PGW Audited Financial Statements and Moody's Investors Service

Recent Developments

In January 2016, the PUC approved PGW's request to increase the Distribution System Improvement Charge (DSIC) to 7.5% from 5% of the non-gas component of a customer's bill. This additional $11 million enables PGW to further accelerate its long-term cast iron main replacement program while fully recovering about $33 million annually through the DSIC. In addition to the DSIC increase, the PUC issued an order in July 2016 to allow PGW to recover past under collections of the DSIC over a period of two years starting in October 2016. The recoverable amount, anticipated to be $11.4 million total, will also help fund the main replacement program. The PUC also approved continuation of the OPEB surcharge beyond 2015 and PGW will continue to fund their OPEB obligation $18.5 million annually.

There is no material change regarding PGW's expansion plan to increase its liquefaction capacity at one of its LNG plants in order to improve gas supply cost management while also enhancing PGW's ability to sell excess LNG into the local market. PGW commissioned a study by Pace Global to assess the potential regional LNG market demand for the expanded capacity at the Richmond LNG plant. The current LNG liquefaction facilities were put into service in 2005 to replace the older, and more energy intensive, liquefaction plant that was then at the end of its useful life. The current Richmond plant was originally planned as a two phase project with the second phase intended to increase PGW's liquefaction capacity, this was not completed during the original construction. The current construction approach and timing of the potential expansion has yet to be finalized.

The potential addition of a new modern liquefier with 21,000 Mcf per day of capacity will double PGW's liquefying capacity, allowing the utility to take full advantage of its 4 Bcf storage capacity that is only about 50% utilized currently. The potential new liquefier also provides redundancy with the 2005 vintage existing liquefier, but uses more energy. The existing liquefier technology utilizes rapid pressure reduction to cool down the gas, thus limiting the energy usage during the liquefaction process compared to the new liquefier that requires more energy to cool down the gas.

PGW is forecast to issue new debt to fund this potential liquefaction expansion along with other capital improvements over the next five years. Given the annual principal repayment of about $50 million a year and a declining debt service amortization schedule, the new debt is not expected to notably weaken coverage or leverage metrics. However, the new debt would reverse a multi-year deleveraging trend. Management reports it is unlikely to move forward with the expansion unless a few long-term contracts are signed to ensure new revenues are generated to at least cover the debt service on the debt issued to fund the expansion. Further, there are many layers of approval required from all of PGW's multiple oversight boards, including the City Council that has 7 new members before PGW can issue debt to finance the LNG expansion plan.

PGW signed a new five year collective bargaining agreement (CBA) on June 17, 2015, effective May 15, 2015. The new contract includes manageable wage increases between 2.0% to 2.5% annually. A key modification to the CBA allows PGW to hire outside contractors to perform work including work to replace the steel and cast iron mains. Outside contractors may also be used to perform main abandonment projects regulated by the PUC.

Detailed Rating Considerations

Revenue Generating Base

PGW serves approximately 500,000 customers in the Philadelphia area by supplying, storing and transporting natural gas. As the largest municipally owned regulated gas distribution utility in the US, PGW has a distribution monopoly, yet their residents have the ability to choose their gas supplier. If customers use another gas supplier, PGW is paid a transportation fee for the use of its lines. PGW is also the regional supplier of last resort.

Per moodyseconomy.com, Philadelphia's economy is performing well. Job growth is now outpacing the national average with employment up in most sectors. Income growth has improved and spurred spending as the labor market tightens and the single and multifamily housing market is its strongest since the mid 2000s.

Favorably, low natural gas prices have helped keep bills relatively low and the weather normalization adjustment (WNA) mechanism has also helped keep margins stable. The weather normalization adjustment is key to the utility's financial stability. While the WNA tempers PGW's revenue upside during cold periods, it also limits the downside risk during warm years. For example, the 2012 year was reportedly the warmest year on record and the WNA added $45 million of revenues in 2012 that helped mitigate the loss of $121 million of top line revenue due to the notably lower demand. Conversely, in the colder 2014 year, the WNA resulted in a refund to customers of $12.3 million. We view the WNA as a favorable driver of credit stability.

In addition to the WNA, PGW's current rate structure benefits from historic regulatory support that has provided the utility with a demand side management (DSM) program, the DSIC, and an Other Post Employment Benefit (OPEB) rate to fund the outstanding OPEB liability. The combination of these adjustment mechanisms along with prudent fiscal management is forecast to enable the utility to avoid another base rate increase until fiscal 2018. This credit supportive rate regulatory history and PGW's current rate structure is considered to be satisfactory and right sized for full cost recovery and the generation of adequate excess cash flow to fund capital reinvestment.

The PUC support of PGW grew post 2000 when the PUC and PGW settled an appeal and the PUC adopted a new provision when setting PGW's rates. The provision requires the PUC to allow PGW to charge sufficient rates to satisfy its bond covenants, including the 1.5 times debt service coverage ratio rate covenant. Moody's calculation of net revenue debt service coverage treats the $18 million annual payment to the city as an operating expense, which results in a lower DSCR than the bond ordinance calculation.

Operational and Financial Performance

FY 2015 operating revenues were down 8% over FY 2014 as low gas prices coupled with a modest winter which lowered demand drove revenue down. These factors also lead to a decrease in operating expenses particularly for natural gas purchases leaving net revenues before debt service in line with previous years, albeit slightly below 2014. For this reason Moody's calculated total net revenue debt service coverage on all PGW revenue bonds in 2015 of 1.51 times was marginally lower than the 1.55 times in 2014. Moody's DSCR includes the $18 million payment to the city as an operating expense, which lowers Moody's DSCR compared to the bond ordinance DSCR of 2.14 times for FY 2015.

PGW's forecast DSCR for FY 2016 (ending August 31) is likely to be in close to the DSCR for the last two years, but will improve in 2017 given the advance retirement of debt service in 2016. Thereafter, DSCRs are forecast to be in the 1.5 to 1.6 times range or stronger following a forecast base rate increase in FY 2018.

Exhibit 2

Moody's calculated Debt Service Coverage Ratio, which includes PGW's payment to the city as an operating expense, is expected to continue to be in the 1.5-1.6 times range through FY 2017.

Source: PGW Audited Financial Statements, Black & Veatch Engineering Report, and Moody's Investors Service

LIQUIDITY

Days cash on hand increased to 77 days in FY 2015 from 65 days in FY 2014 as this improvement was driven by lower operating expenses from lower sales and a moderate winter as well as a modest increase in unrestricted cash. PGW also had $90 million of available commercial paper capacity backed by a letter of credit as of the end of FY 2015. This is forecast to decline to about $50 million by the end FY 2016 as PGW draws on the program to partially fund capital spending. The commercial paper program is currently supported by letters of credit in the amount of $50 million from JP Morgan Chase Bank, N.A. (Aa2(cr), stable) and $70 million from PNC Bank, N.A. (A1(cr), stable). Moody's forecast for days liquidity on hand will likely remain in the 110 to 150 days range with direct cash liquidity remaining in the 70 to 90 days range, depending on the amount of excess cash flow or commercial paper used to fund capital investments.

Debt and Other Liabilities

PGW's outstanding debt continued to decline and is at its lowest debt level in about two decades in FY 2015 despite still having relatively high leverage compared to other gas utilities. PGW's capital plan, covering FY 2017 to FY 2021, totals about $587 million with the majority (82% or $483 million) dedicated to the distribution system, which is primarily the cast iron main replacement program. About half of the current plan will be funded with debt while the balance will come from the DSIC and internally generated funds.

DEBT STRUCTURE

While PGW repays about $50 million in debt principal annually, new debt for capital improvements of about $270 million in FY 2017 and $180 million in FY 2020 will increase the utility's debt levels back to FY 2011 levels. PGW's debt service repayment schedule, post refunding, is declining overall with final maturity in FY 2040. This amortization profile provides PGW with the flexibility to layer in new debt service payments for new debt without notably raising annual debt service costs that would require a base rate increase. PGW's debt is primarily fixed rate with variable rate demand bonds accounting for about a quarter of the outstanding debt in recent years.

The current refunding fixes the interest rate on a portion of the variable Series 8B, 8C, 8D and 8E, of the 1998 Ordinance Bonds, which constitute most of PGW's variable rate debt, along with reducing the notional amount of the associated swap agreements. PGW's only other remaining variable debt, Series 5A-2 of the 1998 Ordinance Bonds, will remain unchanged and has approximately $30 million outstanding.

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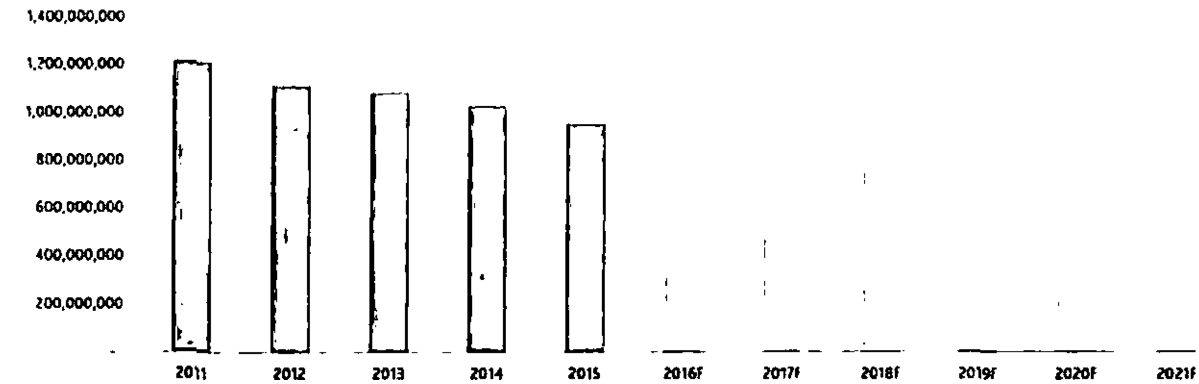
Exhibit 3

PGW's current capital plan increases debt outstanding to historically higher levels



Source: PGW Audited Financial Statement, PGW Fourteenth Series Preliminary Offering Statement, and Moody's Investors Service

DEBT-RELATED DERIVATIVES

PGW currently has one outstanding floating-to-fixed rate swap with JP Morgan Chase Bank, N.A (Aa2(cr), stable) for a $225.5 million notional amount that synthetically fixes the variable interest rate on $225.5 million of outstanding variable rate demand bonds. This amount will be reduced to match the amount of variable rate debt still outstanding post refunding. Under the swap agreement, PGW pays JP Morgan semiannual fixed rate payments of 3.6745% and receives floating payments based on 70% of 1-month LIBOR. The mark-to-market value on the swap was a negative $50.6 million as of June 30, 2016. PGW has no collateral posting requirement and the swap is insured by Assured Guaranty Municipal Corp (A2, stable), whose rating is considered under the swap's additional termination events should the insurer's rating fall below A2/A and PGW's rating would also have to fall below Baa2/BBB.

PENSIONS AND OPEB

The City of Philadelphia sponsors PGW's single employer defined-benefit pension plan, the Philadelphia Gas Works Pension plan. *In December 2011, the City passed an ordinance to offer all new PGW employees a one-time option of entering into a deferred* compensation plan with an employer contribution equal to 5.5% of applicable wages or the defined-benefit pension plan with an employee contribution of 6% of applicable wages. PGW's defined-benefit pension funded ratio was decreased to about 68% in FY 2015 from about 74% in FY 2014 due to the adoption of GASB 68 in 2015 that changed the underlying assumptions including a 30 basis points reduction in the assumed discount rate and adjustments to life expectancies. The 68% funded status is also about even with the post-recession low seen in FY 2010. While PGW continues to pay its annual actuarial required contribution (ARC), the current funded ratio remains below pre-recession levels that averaged about 86%.

As of FY 2015 PGW's OPEB funded ratio is line with the prior year at about 21% but is an improvement from zero five years prior as a result of the PUC approved OPEB rate surcharge. We would expect this ratio to continue to annually improve given the PUC's approval to extend the OPEB surcharge beyond 2015 which would correspondingly lower the annual OPEB costs to the utility but note than an increase in unfunded liabilities in 2015. PGW's OPEB plan includes healthcare and life insurance benefits in accordance with their retiree medical program.

Management and Governance

PGW is municipally owned by the City of Philadelphia, but unlike other municipally owned utilities, PGW's rates are regulated by the state's PUC. PGW has a monopoly over gas distribution in its 134 square mile service territory. PGW is responsible for the day-to-day operation, management and maintenance of the gas system, yet several other entities have oversight over PGW's operations, including budgetary and rate approval. The state's PUC regulates PGW's rates, services and safety, while the seven member board of the Philadelphia Facilities Management Corporation (PMFC) is the executive management and operational director of PGW. The Philadelphia Gas Commission (PGC) is a five member oversight board who approves PGW's operating budget and some PFMC personnel, as well as reviewing the capital budget, real estate transactions and gas supply contracts for approval by the City Council. The five member PGC board is made up of the City Controller, two mayoral appointees, and two city council appointees. The City

Council enacts legislation to approve PGW's capital budget and gas supply contracts, as well as other material operating changes, real estate transactions and capital investments.

Legal Security

The 1998 Ordinance bonds are secured by net revenues of the system. There is a strong rate covenant and additional bonds test requiring net revenues to be 150% of annual debt service costs and a cash funded debt service reserve fund at maximum annual debt service. The indentures requires PGW to operate and maintain the Gas Works System as long as any bonds or notes are outstanding, effectively restricting the sale of PGW's assets unless the outstanding debt is paid in full.

Use of Proceeds

Bond proceeds will refund approximately $180 million fixed rate 7th Series Bonds, $3.3 million fixed rate 9th Series Bonds, $4 million fixed rate 8th Series A and about $63.5 million of the variable rate 8th Series Bonds. This will reduce PGW's variable rate exposure from about 28% of total debt as of the end of FY 2015 to about 22% as of the end of FY 2016, assuming the sale closes before the end of the fiscal year on August 31. The corresponding $63.5 million notional amount of the floating-to-fixed rate swap that synthetically fixes the interest rate on the 8th Series Bonds will be terminated. The letters of credit available to support a potential failed remarketing of the variable rate demand bonds will also be reduced by $63.5 million. PGW will also use about $14 million of cash on hand to advance redeem 2017 maturities in 2016, increasing the net present value savings of the transaction. The refunding is estimated to be about $220 million for an estimated net present value savings of 10.4% taken over the life of the debt. Bond proceeds will also fund issuance costs and a debt service reserve fund.

Obligor Profile

PGW is a municipally owned regulated gas distribution utility that supplies and transports natural gas to 500,000 primarily residential customers within the City of Philadelphia. PGW has a distribution monopoly in the City and serves as the supplier of last resort given there is gas supplier choice in Pennsylvania. If customers use another gas supplier, PGW is paid a transportation fee for the use of its lines. PGW's gas distribution system consists of approximately 3,032 miles of gas mains, 475,010 service lines, and 202 regulator stations. Approximately 48% (by length) of the gas mains are cast iron, 33% are steel, 4% are ductile iron and 15% are plastic. Of the steel lines, 50% are wrapped, coated and cathodically protected. About 29% of the service lines are steel and 71% are plastic. PGW also operates two LNG facilities for liquefaction, storage, and regasification of natural gas, which is used during the winter in addition to the utility's firm take from two interstate pipelines. The utility has laddered firm gas supply contracts and has a relatively balanced gas supply mix with half coming from the Spectra pipeline and the other half coming from the Transco-Williams pipeline. The proposed expansion to the LNG facility should further enable PGW to manage fluctuations in demand due to weather while also providing a physical hedge against price fluctuations.

Methodology

The principal methodology used in this rating was US Municipal Utility Revenue Debt published in December 2014. Please see the Ratings Methodologies page on www.moodys.com for a copy of this methodology.

Ratings

Exhibit 4

Philadelphia (City of) PA Gas Works

Issue	Rating
Gas Works Revenue Refunding Bonds, Fourteenth Series (1998 General Ordinance)	Baa1
Rating Type	Underlying LT
Sale Amount	$220,485,000
Expected Sale Date	08/18/2016
Rating Description	Revenue: Government Enterprise

Source: Moody's Investors Service

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REPORT NUMBER [illegible]

Exh. JFG-3

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Rating Action: Moody's revises PGW's outlook to positive; Assigns Baa1 to $220 mil Gas Works Rev. Refunding Bds., 14th Series

Global Credit Research - 08 Aug 2016

New York, August 08, 2016 -- Issue: Gas Works Revenue Refunding Bonds, Fourteenth Series (1998 General Ordinance); Rating: Baa1; Rating Type: Underlying LT; Sale Amount: $220,485,000; Expected Sale Date: 08/18/2016; Rating Description: Revenue: Government Enterprise;

Moody's Investors Service has revised the outlook to positive from stable and assigned a Baa1 rating to the Philadelphia Gas Work's (PGW) $220 million Gas Works Revenue Refunding Bonds, Fourteenth Series (1998 General Ordinance). Concurrently, Moody's has affirmed the Baa1 rating on approximately $903 million of PGW's pre-refunding 1998 Ordinance bonds outstanding.

Summary Rating Rationale

The change in outlook to positive from stable recognizes PGW's strengthened financial position that is expected to continue owing to sound operational and cost management, a solid liquidity position and credit supportive rate regulation that improves cost recovery, evidenced by the further increase in the distribution system improvement charge (DSIC) that allows for greater cash funding of ongoing capital expenditures.

PGW's rating recognizes the utility's credit supportive regulatory environment that has increased the utility's asset base and supported an acceleration to its main replacement program; a stable financial position that is expected to be maintained; a sizeable low income and stagnant customer base; and the utility's position as a supplier of last resort, which yields consistently above average retail rates. The rating also incorporates the utility's sound management that has enhanced PGW's operating efficiencies resulting in recurring cost savings. The rating further considers PGW's outstanding indebtedness which has declined in recent years but is forecast to rise given the issuance of new debt to finance capital improvements through 2020. The moderately higher leverage profile is manageable given about $50 million of annual principal amortization, a declining debt service repayment schedule, and the fact that assets will be added to the balance sheet from the capital improvement program.

PGW's state rate regulation constrains its cost recovery framework in comparison to the majority of municipally owned gas utilities in the US, which benefit from local unregulated rate setting. Thus, the rating heavily factors the constructive relationship PGW has with the Pennsylvania Public Utility Commission (PUC) and the fact that the PUC must approve rates sufficient for PGW to satisfy its indenture required 1.5 times debt service coverage ratio (DSCR) rate covenant.

Rating Outlook

The positive outlook reflects Moody's view that PGW's sound fiscal management and credit supportive regulatory environment should continue to result in stable financial metrics and improved operations despite a forecast increase in leverage related to ongoing capital expenditures as well as the execution of the Liquefied Natural Gas (LNG) expansion project.

Factors that Could Lead to an Upgrade

Prudent management of the potential LNG expansion project

PGW's financial metrics are maintained at or near current levels

Factors that Could Lead to a Downgrade

Financial metrics narrow due to higher than expected costs and/or weaker revenue collections

A less credit supportive rate regulatory environment

Increased leverage without sufficient cost recovery or a material decline in liquidity

Legal Security

The 1998 Ordinance bonds are secured by net revenues of the system. There is a strong rate covenant and additional bonds test requiring net revenues to be 150% of annual debt service costs and a cash funded debt service reserve fund at maximum annual debt service. The indentures requires PGW to operate and maintain the Gas Works System as long as any bonds or notes are outstanding, effectively restricting the sale of PGW's assets unless the outstanding debt is paid in full.

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Methodology

The principal methodology used in this rating was US Municipal Utility Revenue Debt published in December 2014. Please see the Ratings Methodologies page on www.moodys.com for a copy of this methodology.

Regulatory Disclosures

For ratings issued on a program, series or category/class of debt, this announcement provides certain regulatory disclosures in relation to each rating of a subsequently issued bond or note of the same series or category/class of debt or pursuant to a program for which the ratings are derived exclusively from existing ratings in accordance with Moody's rating practices. For ratings issued on a support provider, this announcement provides certain regulatory disclosures in relation to the credit rating action on the support provider and in relation to each particular credit rating action for securities that derive their credit ratings from the support provider's credit rating. For provisional ratings, this announcement provides certain regulatory disclosures in relation to the provisional rating assigned, and in relation to a definitive rating that may be assigned subsequent to the final issuance of the debt, in each case where the transaction structure and terms have not changed prior to the assignment of the definitive rating in a manner that would have affected the rating. For further information please see the ratings tab on the issuer/entity page for the respective issuer on www.moodys.com.

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Philadelphia's Gas Works Revenue Bonds Upgraded To 'A' From 'A-' On Stronger Fixed Cost Coverage

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David N Bodek, New York (1) 212-438-7969; david.bodek@spglobal.com

NEW YORK (S&P Global Ratings) Aug. 10, 2016--S&P Global Ratings has raised its rating on the City of Philadelphia's gas works (PGW) revenue bonds, issued under its 1998 ordinance, to 'A' from 'A-'. At the same time, S&P Global Ratings has assigned its 'A' rating to Philadelphia's revenue refunding bonds, 14th series, issued under the Philadelphia Gas Works' (PGW) 1998 ordinances. The outlook is stable.

S&P Global Ratings has also raised its rating on the following issues rated under our joint support criteria (low correlation):

- 1998 ordinance, 8th series D bonds, jointly supported by a letter of credit from Royal Bank of Canada, to 'AA+/A-1+' from 'AA/A-1+'
- 1998 ordinance, 8th series B bonds, jointly supported by a letter of credit from Wells Fargo Bank N.A., to 'AA+/A-1+' from 'AA/A-1+'
- 1998 ordinance, 8th series C bonds, jointly supported by a letter of credit from Barclays Bank PLC, to 'AA/A-2' from 'AA-/A-2'

Finally, S&P Global Ratings affirmed its 'AA/A-1' rating on the 1998 ordinance 8th series C bonds, jointly supported (low correlation) by a letter of credit from PNC Bank N.A.

"The upgrade reflects strengthened coverage of fixed costs, and our expectation of additional improvement over the next five years," said S&P Global Ratings credit analyst Jeff Panger.

We understand that a portion of the proceeds of 14th series bonds will refund debt outstanding (including the 8th series B, C, D, and E bonds), and make an estimated $6.6 million in termination payments on $63.5 million in notional swaps.

PGW is the nation's largest municipally owned gas utility, serving approximately 500,000 customers in Philadelphia. Low collection rates had plagued it for several years, although this has improved recently. We believe that the improvement has resulted from low natural gas prices and lower demand associated with generally warmer weather, driving down customer bills and reducing delinquencies. While we also believe that the general improvement in collection rates has been in part due to the implementation of more stringent enforcement to address delinquent accounts, we remain uncertain as to whether this trend will continue under less optimal circumstances.

The stable outlook reflects our view of improved coverage levels over the past two years, and projection of further improvement, which we believe will preserve credit quality at the higher rating.

We do not expect to raise the rating further over the next two years, even if the utility gains full approval for its requested base-rate increase (resulting in higher coverage), because this would not lead to an appreciable improvement in credit quality for the rating.

Although unlikely, downward rating pressure could result if financial metrics (coverage and liquidity) fall materially below recent recorded levels.

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.globalcreditportal.com and at www.spcapitaliq.com. All ratings affected by this rating action can be found on the S&P Global Ratings' public website at www.standardandpoors.com. Use the Ratings search box located in the left column.

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Summary:
Philadelphia; Gas; Joint Criteria

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Summary:
Philadelphia; Gas; Joint Criteria

Credit Profile		
US$220.5 mil gas wks rev rfdg bnds 14th series (1998 gen ordinance) ser 2016 due 10/01/2037		
Long Term Rating	*A/Stable*	*New*
Philadelphia gas wks (Gen Ordinance)		
Unenhanced Rating	A(SPUR)/Stable	Upgraded
Philadelphia gas wks (1998 General Ordinance)		
Unenhanced Rating	A(SPUR)/Stable	Upgraded
Philadelphia gas wks 4th series (1998 Gen Ordinance)		
Unenhanced Rating	A(SPUR)/Stable	Upgraded

Rationale

S&P Global Ratings has raised its rating on the City of Philadelphia's gas works (PGW) revenue bonds, issued under its 1998 ordinance, to 'A' from 'A-'. At the same time, S&P Global Ratings has assigned its 'A' rating to Philadelphia's revenue refunding bonds, 14th series, issued under the Philadelphia Gas Works' (PGW) 1998 ordinances. The outlook is stable.

S&P Global Ratings has also raised its rating on the following issues rated under our joint support criteria (low correlation):

- 1998 ordinance, 8th series D bonds, jointly supported by a letter of credit from Royal Bank of Canada, to 'AA+/A-1+' from 'AA/A-1+'
- 1998 ordinance, 8th series B bonds, jointly supported by a letter of credit from Wells Fargo Bank N.A., to 'AA+/A-1+' from 'AA/A-1+'
- 1998 ordinance, 8th series C bonds, jointly supported by a letter of credit from Barclays Bank PLC, to 'AA/A-2' from 'AA-/A-2'

Finally, S&P Global Ratings affirmed its 'AA/A-1' rating on the 1998 ordinance 8th series C bonds, jointly supported (low correlation) by a letter of credit from PNC Bank N.A.

The upgrade reflects strengthened coverage of fixed costs, and our expectation of additional improvement over the next five years.

The 1998 ordinance bonds, although rated as working-lien bonds, were subordinate to the closed senior lien 1975 ordinance debt. They are now effectively senior-lien obligations because the 1975 ordinance bonds have been refunded.

We understand that a portion of the proceeds of 14th series bonds will refund debt outstanding (including the 8th series B, C, D, and E bonds), and make an estimated $6.6 million in termination payments on $63.5 million in notional swaps.

The ratings reflect what we view as PGW's credit strengths:

- Solid coverage of debt service requirements over fiscal years 2013 through 2015 (after the annual payment to Philadelphia's general fund). Management estimates strengthening coverage in fiscal year 2016, and we expect this to continue over fiscal years 2017-2021. However, the out-year coverage levels depend on the utility receiving Pennsylvania Public Utility Commission (PAPUC) approval to increase base rates $40 million increase for fiscal 2018. While the prospect of approval in full is uncertain, the PAPUC has been significantly more supportive of PGW rate filings in recent years;
- Good liquidity, with $114 million in unrestricted cash, (measuring an adequate 76 days of operating expenses), which we project will remain steady through 2021. A $120 million commercial paper (CP) program the utility can use to provide working capital, as well as capital purposes, also bolsters liquidity;
- Moderate capital spending planned for the next five years, with a prudent mix of debt-financing and internally generated funding helping to further reduce PGW's debt-to-capitalization ratio, though debt burden per customer is expected to increase;
- Generally solid collections that have enhanced the utility's financial stability. The improved collections are partially due to above-average temperatures and, to a greater extent, lower and more stable gas prices. These conditions have made bills generally more affordable, but cannot necessarily be counted on. However, the improved collections are also a function of the PGW's enhanced billing and collection procedures, which are expected to continue;
- A credit supportive rate structure that insulates margins from weather variability and automatically passes on gas costs to ratepayers through quarterly adjustments; and
- The utility's strong management team.

Constraining further credit improvement are the following factors:

- Weak service area demographics and above-average rates , historically exposing PGW to collection difficulties during periods of high gas costs or below-average temperatures, while also limiting financial flexibility;
- Dependence on the PAPUC for approval for base-rate increases, with a mixed history of support for filings, although this has improved recently;
- Very high user rates; and,
- We consider debt levels moderately high

PGW's rates are subject to PAPUC approval, which we view as a credit weakness. From 2000 (when the commission began regulating the utility's rates) to October 2008, the PAPUC approved just 42% of the total amount of base-rate increases PGW requested, although all gas cost rate adjustments have been received in full and on time.

In July, 2010, the PAPUC approved a settlement between PGW and six interveners to make permanent a $60 million extraordinary base-rate increase and a $16 million surcharge to build funding of the annually required contribution for other postemployment benefits. As part of the approved settlement, the utility agreed not to seek another base rate increase for two years, and not issue additional new money debt three.

We believe that the 2010 settlement resulted in improved cash flow and financial flexibility, and PGW has received approvals in full for several surcharges filed with PAPUC over the past several years. The utility expects to seek a $40 million base-rate increase in January 2017 (effective for fiscal 2018). We believe that PGW's recent track record indicates a more supportive regulatory environment. Moreover, we believe that even if the utility receives less than its full request, financial metrics will continue to support the higher rating.

PGW has not issued new money debt since 2010, and debt ratios have shown steady improvement. Debt per customer has declined nearly 20% since 2011, to $1,973, while debt has decline to 78% of total capitalization in 2015, down from 82% in 2010. The utility expects to issue about $41 million of CP to provide interim financing of capital needs in fiscal 2016; long-term debt issuance plans include a $270 million issuance in fiscal 2017 (new money and CP take-out) and $180 million in fiscal 2020 (we note that the latter issuance is $80 million higher than previously planned). PGW expects debt-to-capitalization will continue declining, reaching a projected 64% by 2021. However, this is higher than previously expected, because the anticipated 2020 issuance has been upsized.

We understand that PGW is exploring the possibility of increasing its current liquefaction capabilities at its existing Richmond liquefied natural gas facility, and estimates a roughly $120 million capital cost, $110 million of which would be debt-financed and amortized over 25 to 30 years. Management expects that it will proceed with the project only if it is able to secure firm bilateral contracts (of 15 to 20 years) that would enable them to break-even through the sale of roughly 40% of the expanded liquefaction capabilities over the (longer) life of the debt. Although the project would provide some operational benefits (creating redundancies and providing a possible replacement to its current aging liquefier, for example), we believe that it does increase risk. However, we believe the risks are manageable within the context of PGW's improved financial profile and increased costs associated with the project should the utility fail to make sufficient sales at projected prices.

PGW's residential heating rates range from 21% to 92% higher than those of other Pennsylvania utilities. We believe this is a function of historically weak collections, sizable bad debt expense, and customer responsibility and senior citizen discount programs. Similar disparities exist among other customer classes as well. As such, much of the utility's growth is for unbundled service, with about 37% of load supplied by alternate suppliers.

In our opinion, PGW has a mutually interdependent relationship with Philadelphia. Historically, the city received an $18 million annual payment from the utility, but with PGW facing cash flow problems, the city forgave the payment in 2004, and annually granted the payment back to PGW from 2005 through 2010. From fiscal years 2011-2015, Philadelphia retained the payment, a decision that we believe was made in light of the utility's improving financial condition and the impact of the economy on the city's budget. Philadelphia's five-year financial plan anticipates the continuation of the annual payment.

Coverage levels have shown steady improvement, and are at levels that we consider both supportive of a higher rating and sustainable. S&P Global Ratings evaluates PGW's financial metrics assuming the annual payment is made, treating it as an operating expense. Since 2012, coverage levels have ranged from 1.25x (2012) to 1.91x (2013), with the low partially explained by above-average temperatures, and the high explained by a one-year dip in debt service requirements. Coverage levels were solid in 2015 at 1.54x, consistent with that of the previous year, and our expectations at our most recent review. 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.

We consider PGW's liquidity to be adequate. About $114 million in unrestricted cash and investments provides 76 days of operating expenses, and a $120 million CP program that can be used for working capital purposes supplements this. Management's projections suggest that unrestricted cash levels should continue over the next five years.

PGW is the nation's largest municipally owned gas utility, serving approximately 500,000 customers in Philadelphia. Low collection rates had plagued it for several years, although this has improved recently. We believe that the improvement has resulted from low natural gas prices and lower demand associated with generally warmer weather, driving down customer bills and reducing delinquencies. While we also believe that the general improvement in collection rates has been in part due to the implementation of more stringent enforcement to address delinquent accounts, we remain uncertain as to whether this trend will continue under less optimal circumstances.

Outlook

The stable outlook reflects our view of improved coverage levels over the past two years, and projection of further improvement, which we believe will preserve credit quality at the higher rating.

Upside scenario

We do not expect to raise the rating further over the next two years, even if the utility gains full approval for its requested base-rate increase (resulting in higher coverage), because this would not lead to an appreciable improvement in credit quality for the rating.

Downside scenario

Although unlikely, downward rating pressure could result if financial metrics (coverage and liquidity) fall materially below recent recorded levels.

Ratings Detail (As Of August 10, 2016)		
Philadelphia gas wks (1998 Gen Ordinance)		
Long Term Rating	A/Stable	Upgraded
Philadelphia gas wks (1998 Gen Ord) (wrap of insured) (AMBAC & AGM) (SEC MKT)		
Unenhanced Rating	A(SPUR)/Stable	Upgraded
Philadelphia gas works rev bnds (1975 Gen Ordinance) ser 19TH dtd 05/15/2007 due 10/01/2021-2023		
Unenhanced Rating	NR(SPUR)	
Philadelphia gas works rev bnds (1975 Gen Ordinance) ser 19TH dtd 05/15/2007 due 10/01/2021-2023		
Unenhanced Rating	NR(SPUR)	
Philadelphia JOINTCRIT		
Long Term Rating	AA+/A-1+	Upgraded
Unenhanced Rating	A(SPUR)/Stable	Upgraded
Philadelphia JOINTCRIT		
Long Term Rating	AA/A-1	Affirmed
Unenhanced Rating	A(SPUR)/Stable	Upgraded

Ratings Detail (As Of August 10, 2016) (cont.)

City of Philadelphia, Pennsylvania, Gas Works Revenue Refunding Bonds, Eighth Series C (1998 General Ordinance)

Unenhanced Rating	A(SPUR)/Stable	Upgraded
Long Term Rating	AA/A-2	Upgraded

City of Philadelphia, Pennsylvania, Gas Works Revenue Refunding Bonds, Eighth Series D (1998 General Ordinance)

Unenhanced Rating	A(SPUR)/Stable	Upgraded
Long Term Rating	AA+/A-1+	Upgraded

Philadelphia gas wks (1975 Gen Ordinance) Seventeenth ser

Unenhanced Rating	NR(SPUR)	

Many issues are enhanced by bond insurance.

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.globalcreditportal.com. All ratings affected by this rating action can be found on the S&P Global Ratings' public website at www.standardandpoors.com. Use the Ratings search box located in the left column.

RATES PHILADELPHIA, PA'S GAS WORKS REV REFUNDING BONDS; OUTLOOK STABLE

Fitch Ratings-New York-08 August 2016: Fitch Ratings has assigned a 'BBB+' rating to the following revenue bonds issued by the city of Philadelphia on behalf of the Philadelphia Gas Works (PGW):

--Approximately $220,550,000 Gas Works Revenue Refunding Bonds, Fourteenth Series (1998 General Ordinance).

The bonds are scheduled to price via negotiation August 20. The bonds will refund a portion of outstanding parity bonds (Seventh Series, Ninth Series and Eighth Series A-E) for interest cost savings, fund termination payments related to corresponding swap agreements and pay issuance costs.

In addition, Fitch affirms the following rating:

--$915,175,000 million gas works revenue refunding bonds, various series (senior 1998 general ordinance) at 'BBB+'.

The Rating Outlook is Stable.

SECURITY

The 1998 general ordinance bonds are secured by net revenues of the gas works utility.

KEY RATING DRIVERS

LARGE GAS DISTRIBUTION SYSTEM: PGW is the largest municipally-owned gas distribution utility in the nation serving slightly more than 500,000 accounts located entirely within the City of Philadelphia (general obligation bonds rated 'A-'/Stable Outlook). The system provides natural gas on a retail basis to a considerably diverse and largely residential customer base exhibiting no concentration among users.

SUSTAINED IMPROVEMENT IN FINANCIAL PERFORMANCE: A sustained improvement in financial metrics and a continued reduction in debt levels resulted in a rating upgrade in 2015. Contributing factors include prior rate relief, greater cost recovery through various surcharges, historically low natural gas prices and PGW's ability to current fund its capital needs and maintain healthier collection rates. Fitch expects these trends will continue based on the latest financial forecast.

STABLE FINANCIAL METRICS: Fitch calculated debt service coverage has averaged a solid 1.52x over the prior five years while coverage of full obligations, which reflects the annual transfer made to the city's general fund, has also remained at a healthy level, averaging 1.37x since 2010. Liquidity continued at an acceptable level in fiscal 2015, equal to 74 days of cash on hand.

RATE REGULATED: PGW's ability to establish its rates is subject to oversight by Pennsylvania Utility Commission (PUC), potentially limiting needed rate increases and overall financial flexibility. Positively, the utility's relationship with the PUC has remained constructive and supportive in recent years.

WEAK BUT STABLE DEMOGRAPHICS: The city's economy continues to strengthen and is well anchored by several large health care and higher education institutions. However, wealth indicators for the service area remain are generally weak, contributing to chronically below average collection rates and sizeable write-offs, and compounding PGW's high rates.

RATING SENSITIVITIES

LIMITED FINANCIAL FLEXIBILITY: Despite the overall improvement in Philadelphia Gas Works' credit quality in recent years, Fitch expects the utility's exceptionally high rates, the service area's low income levels and a regulatory environment that includes state and local oversight will continue to limit financial flexibility. A return to weaker collection rates, diminished cash flow and an inability to gain needed rate relief and recover costs would exert downward pressure on the ratings.

FORECAST RESULTS REALIZED: PGW's ability to generate financial results included in its latest financial forecast, which hinge on gaining rate relief and further sustaining its trend of improved revenue collection could ultimately warrant positive rating consideration.

CREDIT PROFILE

IMPROVED CREDIT QUAILITY

PGW's financial performance since gaining rate relief beginning in fiscal 2010 has exhibited a generally more favorable trend with metrics supportive of the 'BBB+' rating. Fitch calculated debt service coverage of both senior and subordinate lien obligations has averaged 1.52x over that span, compared to 1.1x between fiscal 2006 and 2009. Coverage of full obligations, which reflects the annual transfer made to the city's general fund, has also remained at a healthy level, averaging 1.37x since 2010.

Liquidity is somewhat low but still adequate for the rating category. Unrestricted cash and investments peaked at 74 days in fiscal 2015 and have remained at no less than 55 days since 2010, despite management's prudent decision to use cash flow to defease or accelerate bond principal by approximately $50 million in recent years.

MANAGEABLE CAPITAL PROGRAM

PGW's capital improvement program (CIP) through fiscal 2021 appears manageable with spending levels moderately higher compared with historical programs. Planned spending spanning fiscal years 2017-2021 totals $587.2 million, the vast majority of which will be to reduce the inventory of cast iron mains. PGW remains committed to an ongoing cast iron main replacement program that has accelerated in recent years following the implementation and subsequent increase of a distribution system improvement charge.

Capital program funding sources will be almost evenly split between excess cash flow and debt issuances planned for midway through fiscal 2017 and the second half of fiscal 2020. Leverage ratios have fluctuated over the years but have generally exhibited gradual improvement with the current funding of capital projects leading to a steady decline in total debt outstanding. The ratios of equity to capitalization and debt to funds available for debt service (FADS) progressed to 22% and 7.1x, respectively, at the close of fiscal 2015 compared to 17.8% and 8.8x, respectively, in 2010.

Fitch expects a moderate increase in total debt outstanding by 2020 based on the additional borrowings plans; however, the related change in leverage ratios should be tolerable at the current rating category. Additional debt associated with a tentatively planned expansion of existing liquefied natural gas (LNG) facilities would likely pressure debt metrics further. However, the potential for higher LNG sales as a result of the expansion could enhance cash flow and sufficiently mitigate any rating concerns. Exh. JFG-3

SOCIOECONIOMIC CHARACTERISTICS COMPOUND HIGH RATES

PGW's exceptionally high rates, the city's challenging demographics and the state's regulation of retails rates continue to constrain PGW's operating flexibility. Residential rates are more than 50%higher than all other gas distribution systems operating within the state in part due to historically weak collections and extensive utility-sponsored discount programs that benefit low-income customers. The city's nearly 27% poverty rate is nearly twice the national rate, and median household income (MHI) approximates just 70% of the state and national averages. Consequently, PGW's accounts receivable balances and annual write-offs are routinely high relative to most utilities. Fitch notes, however, that after remaining consistently below 90% prior to 2004, revenue collection has averaged a more acceptable 96% over the prior 10 years.

HEIGHTENED REGULATORY ENVIRONMENT

PGW operates within a heightened regulatory environment with the gas commission, city council and the PUC maintaining oversight of the utility's operations and the PUC retaining rate setting authority.. While the regulatory bodies have been increasingly more supportive over the last several years, Fitch believes the multiple layers of oversight will continue to limit the utility's financial flexibility,

Fitch notes the PUC's ratemaking methodology is designed to ensure PGW recovers its costs, meets its rate covenant of 1.5x coverage on senior and subordinate lien obligations, and continues to fund a required $18 million annual utility payment to the city.

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PGW St. No. 2-R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

JOSEPH F. GOLDEN, JR.

ON BEHALF OF
PHILADELPHIA GAS WORKS

Docket No. R-2017-2586783

Philadelphia Gas Works

General Rate Increase Request

Topics Addressed:

Revenue Requirement
Revenue & Expense Adjustments
Updated Financial Schedules

June 9, 2017

EXHIBIT
R-2017 2586783
Statement
PGW No. 2-R
6-28-17 CP AHC
PENGAD 800-631-6989

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND POSITION WITH THE COMPANY.

A. My name is Joseph F. Golden, Jr. My position is Executive Vice President and Acting Chief Financial Officer for Philadelphia Gas Works ("PGW" or "Company").

Q. DID YOU PREVIOUSLY SUBMIT TESTIMONY IN THIS PROCEEDING ON BEHALF OF PGW?

A. Yes. I submitted my direct testimony, PGW St. No. 2 on February 27, 2017.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My rebuttal testimony responds to certain portions of the following direct testimony submitted by other parties, including the Office of Consumer Advocate ("OCA"), the Bureau of Investigation and Enforcement ("I&E") and the Office of Small Business Advocate ("OSBA"). The primary purpose of my rebuttal testimony is to: (1) update the Fully Projected Future Test Year ("FPFTY") financial schedules; (2) reply to the various revenue requirement recommendations; (3) address the financial metrics recommendations of various parties; and (4) respond to arguments regarding PGW's claims for certain revenues and expenses.

Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.

A. My testimony first provides updated *pro forma* financial schedules for the FPFTY reflecting four adjustments and updates. On net these adjustments are not material and do not change PGW's claimed $70,000,000 rate increase request. I also comment on the overall rate increase recommendations of Ms. Maurer, the witness for I&E, Ms. Everette for OCA, and Mr. Knecht for OSBA and the financial standards they recommend be used to judge the reasonableness of PGW's rate request. Next, I provide responses to the revenue and expense adjustments proposed by I&E witnesses Keller and Apetoh and OCA witness Everette. Finally, I discuss PGW's proposal to accept the recommendation of I&E witness Keller to reestablish a health insurance trust fund including and show the effect on PGW's revenue requirement of accepting that recommendation.

II. UPDATED FPFTY

Q. HAVE YOU PROVIDED A REVISED JFG-1 AND JFG-2?

A. Yes. The revisions reflected in the attached exhibits are as follows:

1. I have revised PGW's calculation of debt service coverage to remove $1,971,000 in pension expense that was inadvertently excluded when calculating the Debt Service Coverage or "DSC";

2. I have reduced *pro forma* expenses by $250,000 to remove a portion of claimed insurance expense in the FPFTY recognizing that it is associated with PGW's contemplated LNG expansion project, which, if it becomes operative, will not do so until after the end of the FPFTY;

3. I have added $1,167,000 to *pro forma* uses of cash in order to implement the recommendation of I&E that PGW reinstate its Health Insurance Escrow Fund. Offsetting this additional use of cash, I have also included an equivalent increase in PGW's gas revenues.

4. I have reduced *pro forma* expenses by $115,000 to reflect updated rate case expense.

These revisions and updates are reflected in the attached exhibits, JFG-1-A and JFG-2-A. These revisions, at present rates, increase FPFTY *pro forma* net earnings by $1,282,000, year-end cash by $802,000, and Net Cash Available after 1998 Debt Service by $2,336,000.[1] After consideration of the proposed, $70,000,000 rate increase, PGW's debt service coverage would increase by 4 basis points (from 2.16 to 2.20) and its year end cash on hand by $365,000.[2] Consequently, they have a non-material effect on PGW's *pro forma* financial metrics and do not change our position that a $70,000,000 rate increase is necessary and reasonable.

III. REVENUE REQUIREMENT CALCULATION

Q. HAVE YOU EXAMINED THE DIRECT TESTIMONY FILED BY I&E WITNESS RACHEL MAURER, OCA WITNESS ASHLEY EVERETTE AND OSBA WITNESS ROBERT KNECHT IN THIS CASE?

A. Yes, I have.

Q. PLEASE SUMMARIZE THEIR OVERALL RECOMMENDATION REGARDING REVENUE REQUIREMENT.

A. My understanding of the recommendation regarding the revenue requirement of I&E witness Maurer is for PGW to borrow $75,000,000 for its operations and capital spending in excess of I&E's recommended base rate increase of $33,802,000 (using 10-year average weather normalized sales) and spend funds on the related debt service for the additional bonds issued in the FPFTY and for the subsequent thirty years. The recommendation regarding the additional revenue requirement of OSBA witness Knecht is in the $30,000,000 to $35,000,000 range. Witness Knecht also irreverently recommends that the PUC behave in an irresponsible manner by "starving the beast [PGW]" in an effort to

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1 Exh. JFG-1-A.

2 Exh. JFG-2-A.

keep PGW one step above a financial crisis. I also note in witness Knecht's testimony that there is a strong recognition of the additional burden on ratepayers related to interest expense in debt service. This is in direct contrast to witness Maurer's recommendation to add to this burden for ratepayers.

Regarding OCA witness Everette, there is a recognition of the need for a revenue increase of $33,972,000 while shifting to a 20 year heating degree day average for the determination of *pro forma* revenues, and a change in the collection rate by 1% of revenue, or approximately $7,900,000.

Q. DO YOU HAVE ANY OVERALL RESPONSE TO THESE RECOMMENDATIONS?

A. Yes, I recognize the good faith effort the witnesses have used to determine a reasonable revenue requirement for PGW using the Cash Flow Method of ratemaking, the method mandated by law, and in general accordance with the Pennsylvania Public Utility Commission's ("PUC" or "Commission") Policy Statement regarding PGW's ratemaking methodology.[3] I also take into account that the witnesses' recognize the need for PGW to maintain financial health in order to continue its efforts to modernize its system and improve safety, reliability and customer service. I nonetheless believe that if the witnesses' recommendations are adopted by the PUC, they would threaten PGW's ability to maintain financial health and its efforts to modernize its system and improve safety reliability and customer service, the very essence of what their recommendations purport to achieve. Additional problems with their overall recommendations are described below.

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3 52 Pa. Code §§ 69.2701 to 69.2703.

IV. <u>FINANCIAL METRICS</u>

Q. DO YOU AGREE WITH THE RECOMMENDATION OF I&E WITNESS MAURER THAT PGW MOVE TOWARD A MORE BURDENSOME AND DEBT-LADEN CAPITAL STRUCTURE?

A. No, I do not. With the recent implementation of the DSIC surcharge, as it is utilized in a Cash Flow methodology company such as PGW, the PUC has recognized the importance of infrastructure replacement and system improvement on a "pay-go" basis. Recommending the use of additional debt to fund current capital projects defies the PUC efforts to use "pay-go" funds for this exact purpose. In authorizing the DSIC surcharge the PUC already took into account PGW's funding of its existing capital program at an approximate 50/50 split of debt financing and funding from IGF. In increasing the DSIC surcharge from 5.0% to 7.5% the PUC chose to further expand the "pay-go" component of PGW's funding of its capital program. This proceeding should not be utilized to undo the PUC's great efforts to better PGW infrastructure improvement program while attempting to maintain PGW's financial health by prudently "deleveraging" PGW's concerningly high debt to equity ratio. The recommended I&E strategy is akin to "kicking [the problem] down the road" to future ratepayers at a compounded burden of additional borrowing related interest expense, bond issuance expense, and additional pressure on the debt service coverage ratio.

Ms. Maurer's recommendation also would push PGW's debt to total capitalization ratio (akin to its "debt to equity ratio"), <u>now resting above 90%</u> even higher. Ms. Maurer quoted with favor from the PUC Staff's Report on the need to increase the pace of PGW's infrastructure modernization in which the Staff opined that it might be acceptable for a municipal utility to have a debt to equity ratio of as high as 70%.[4] Even assuming PGW were to receive the full rate increase it has requested – but continuing with PGW's prudent course of financing construction at an approximate 50/50 split of debt financing and funding from IGF – PGW's debt to equity ratio in the FPFTY is already at 91%, reducing to around 70% only in FY 2022.[5] The combined effect of Ms. Maurer's recommendation to reduce PGW's allowed rate increase by 52% while at the same time assuming that PGW will increase its reliance on long term debt to fund its capital program would increase PGW's debt to equity ratio even more – to 94.35% in the test year. If Ms. Maurer's recommendation were accepted, PGW's debt to equity ratio would still be a 78.93% in FY 2022. This is certainly a long way from the 70% that the PUC Staff suggested might be reasonable for PGW,[6] and moving seriously in the wrong direction compared to PGW's proposal. PGW projects that, with the full $70,000,000 rate increase, its debt to total capitalization in the FPFTY will be 91% falling to 68.50% in FY 2022.[7] Mr. Hartman explains that a Commission determination to consign PGW to such enormous leverage would certainly be viewed negatively by rating agencies and investors.

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4 Pennsylvania Public Utility Commission, Staff Report: Inquiry into the Philadelphia Gas Works' Pipeline Replacement Program, dated April 21 , 2015, p. 6, 44, 50.

5 Exh. JFG-2-A, p. 4.

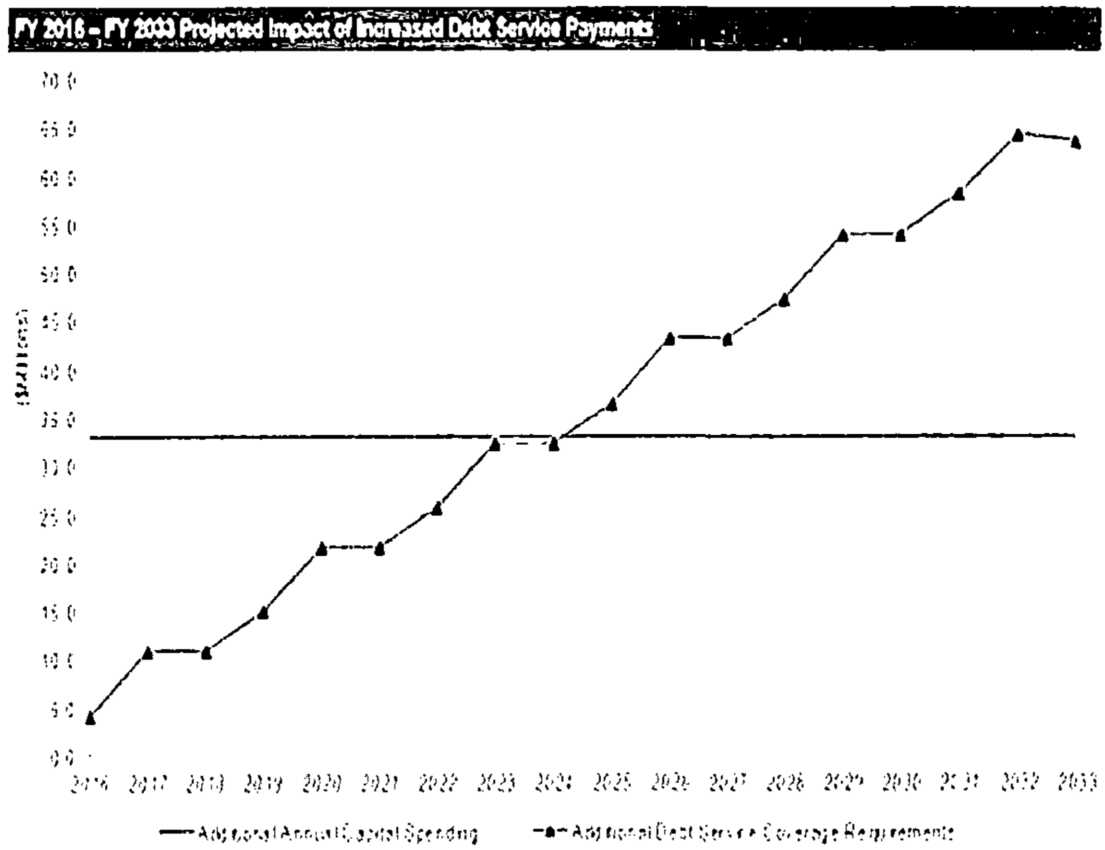
6 Pennsylvania Public Utility Commission, Staff Report: Inquiry into the Philadelphia Gas Works' Pipeline Replacement Program, dated April 21 , 2015, p. 6, 44, 50.

7 Exh. JFG-2-A, p. 4.

Q. DO YOU BELIEVE THAT THE ADJUSTMENTS MS. MAURER HAS MADE TO ACCOUNT FOR AN INCREASE IN DEBT FINANCING WOULD BE A GOOD DEAL FOR RATEPAYERS?

A. No, I do not. As I testified in the past, when one considers that rates must reflect not only the debt service but the debt service coverage of any new issuance, customers will pay more overall when PGW finances its capital via the issuance of long-term debt, rather than from IGF. Accordingly, the revenue requirement for bond financed capital improvements would be 50% more than just the debt service. Moreover, because PGW would have to continue to issue bonds every so often to continue to fund the capital improvements at the mix of debt and IGF recommended by Ms. Maurer, the cost of financing through long-term debt will continue to grow over time. Because of the 150% debt service coverage factor, the cost to the customer of funding the program via a long-term debt option becomes more expensive than the IFG option in relatively short order, as the following chart illustrates.

Annual Escalation of Debt Service Payments at 1.5x Coverage



Q. PLEASE DISCUSS MS. MAURER'S CRITICISM OF YOUR ASSESSMENT OF CASH ON HAND.

Ms. Maurer's discussion of cash on hand is inconsistent with sound financial management. Ms. Maurer points to PGW's cash on hand at a level of $107,800,000 and deems this as adequate. However, this level of "adequate" cash on hand comes at a cost of additional debt of $75,000,000 and additional debt service of $5,250,000 million for 30 years. From the perspective of personal finance, would anyone prudently recommend a person take a cash advance on a credit card or access a home equity line of credit to show others, including credit reporting agencies, the adequacy of their cash on hand to pay ongoing bills?

Suggesting a similar plan of finance for PGW is founded on the same faulty financial footing and as such, should be rejected.

Q. DISCUSS MS. MAURER'S DISAGREEMENT WITH YOUR DEBT SERVICE COVERAGE RATIO.

A. Ms. Maurer claims that a debt service coverage ratio of 1.82x is adequate for PGW to maintain its progress in the financial market.

Q. DO YOU AGREE WITH MS. MAURER'S PROPOSED DEBT SERVICE COVERAGE RATIO?

A. I do not agree that the debt service coverage ratio recommended by Ms. Maurer, or the similar level – 1.85x – recommended by OCA witness Habr, is adequate. While this ratio is only one view of financial soundness it does not fully identify the ability to cover cash requirements that are not included in the operating expenses of PGW's income statement such as the City fee, OPEB contributions to the OPEB Trust, retiree health payments, and IGF for capital spending. The data below illustrates the inadequacy of the opposing parties' recommendations. As noted, PGW as a cash flow company must secure <u>from rates</u> the cash it needs to meet its cash obligations and satisfy its debt service obligations. In the FPFTY, PGW's cash obligations after debt service are as follows:

OPEB Payment	$ 18,500,000
City Payment	$ 18,000,000
CAPX spending	$ 57,010,000 (assumes 50% from IGF, 50% via DSIC)
Retiree Insurance	$ 5,120,000
Additional Pension	$ 1,971,000[8]
Health Escrow	$ 1,167,000
Total	$101,768,000

[8] Please note that later in my testimony I explain that PGW inadvertently excluded this amount when calculating PGW's debt service coverage. While I agree that this item should not be included as an obligation in the calculation of the debt service coverage, it, nonetheless is an item that PGW must pay. Accordingly, I have shown it in the above analysis of obligations that must be satisfied in from Net Available after 1998 Debt Service.

Notably, PGW will also incur fees and interest for outstanding tax-exempt commercial paper that will have to be issued to fund construction projects until the proceeds of long-term bonds can be utilized. Those fees will be as follows:

LOC Fees - 8th Series Bonds	$2,092,000
LOC Fees - TXCP	$1,271,000
LOC Fees - 5th Series Bonds	$ 271,000
Total	$3,634,000

Therefore, the minimum amount needed by PGW after debt service in the FPFTY is $105,402,000. Compare that to the FPFTY net available after debt service produced by the recommendations of OCA and I&E:

Minimum Needed:	$105,402,000
OCA:	$86,462,000[9]
I&E:	$87,531,000[10]

Of course, PGW strongly believes that an amount above this minimum amount is absolutely necessary in order to both actually deal with unanticipated contingencies and to provide assurance to the investment community that it has the capacity to maintain adequate coverages and not approach its minimum coverage requirement of 1.5x. PGW prudently recommended a ratio in excess of 2.0 time coverage which produces a Net Available of $121,993,000[11]: to increase the likelihood that it will be able to meet its obligations, as set forth above, and to

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9 OCA St. 1, Exh. AEE-2, "Net Available After 1998 Debt Service."

10 I&E St. 1, Sch. "Net Available After Debt Service." I&E's Net Available After Debt Service is slightly higher, even though its recommended debt service coverage is lower because of Ms. Maurer's suggestion that PGW should use long term debt to fund over 60% of its capital budget, rather than PGW's recommended 50/50 approach. I explain why this recommendation would not be prudent in another part of this testimony.

11 PGW Exh. JFG-2A, p3, ln. 23.

achieve a bond rating in the "A" category. This would have the effect of lowering the interest expense burden on all ratepayers. But the above analysis clearly shows why the OCA and the I&E recommendations are simply inadequate.

Q. HAVE YOU EXAMINED THE DIRECT TESTIMONY FILED BY OCA WITNESS DR. DAVID HABR IN THIS CASE?

A. Yes, I have.

Q. DO YOU AGREE WITH DR. HABR'S CALCULATION OF PGW'S ANNUAL DEBT SERVICE?

A. I do not agree that the debt service coverage ratio recommended by Dr. Habr is adequate to maintain or improve PGW bond rating. As noted above, PGW prudently recommended a ratio in excess of 2.0 times coverage both to be assured that PGW can meet its PUC-approved obligations in excess of debt service as well as to attempt to achieve a bond rating in the "A" category.

Q. DO YOU AGREE WITH DR. HABR'S ASSESSMENT OF DEBT SERVICE RELATED TO A NEW MONEY BOND ISSUE?

A. No, I do not.

Q. CAN YOU PROVIDE MORE INSIGHT INTO THIS DISAGREEMENT?

A. While Dr. Habr notes the recent debt service schedule of PGW's bond refinancing did not result in level debt service he does not take into account, or acknowledge, that the debt service of these recent transactions was purposefully uneven to fit into PGW's overall levelization and gradual reduction of future debt service. These recent transactions were to refinance bonds, not to issue new money bonds. Each of these transactions are accompanied with different financial strategies.

Q. WHAT IS PGW'S STRATEGY REGARDING DEBT SERVICE?

A. When the City of Philadelphia issues "new money" bonds for PGW, as it plans to in August 2017, the standard strategy is to provide PGW with level debt service consistent with its then outstanding debt service obligations.

Q. WHAT EFFECT WOULD MOVING ONE PRINCIPAL PAYMENT FROM THE FPFTY TO A FUTURE YEAR HAVE ON PGW?

A. The effect would be to push, or postpone, the related cash requirement of PGW in the FPFTY *to a time one year later. However, immediately after the postponed* payment is made PGW would be in the same cash position. Making the test year debt service payment a little lower in the analysis does not provide for adequate rate relief when the same bill is coming due a year later. This is especially true when considering that the PUC's determination of just and reasonable rates includes a review of PGW's test year-end and (as a check) projected future levels of non-borrowed year-end cash.

Q. ARE YOU FAMILIAR WITH THE TESTIMONY OF OSBA WITNESS ROBERT KNECHT?

A. Yes, I am.

Q. PLEASE COMMENT ON MR. KNECHT'S DISCUSSION OF THE ACCOUNTING CHANGES RESULTING FROM PGW'S ADOPTION OF GASB 68, 71, AND 75.

A. Mr. Knecht correctly recognizes the dramatic accounting changes caused by the adoption of recent accounting pronouncements related to pensions and other post-employment benefits. It is also apparent that there is a recognition by Mr. Knecht that not all of these changes are cash related and therefore will not affect PGW's rate request in this proceeding.

Q. DOES MR. KNECHT NOTE THE CHANGES IN THE PENSION ACTUARY'S ASSUMPTIONS FROM THOSE UTILIZED IN THE LAST BASE RATE CASE?

A. No, Mr. Knecht states that "it is not clear to me [Mr. Knecht] whether the continually rising pension costs are related to the accounting changes, other changes that affect the unfunded pension liabilities (e.g., return on fund asset), the Company offering early retirement benefits to manage the size of its workforce, or other factors."[12]

Q. IS MR. KNECHT CORRECT THAT PGW HAS NOT PROVIDED INFORMATION SHOWING WHY ITS PENSION COSTS HAVE RISEN?

A. Not in my opinion. As PGW showed in actuary reports provided in its initial filing requirements, audited financial statements, and its Financial Report[13] it is obvious from these documents that PGW was directed to revise its earnings assumptions, from 7.95% in the last rate case to 7.65% in FY 2015 and 7.30% in FY 2016. These changes alone have served to increase PGW's unfunded liability by tens of millions of dollars because lowering the earnings assumption has the effect of lowering the future fund balance. As identified in PGW's CAFR for FY 2016 in Note 10 to the financial statements, a mere 1.0% downward movement in the earnings rate from 7.3% to 6.3% will increase PGW's pension liability by $91,000,000.[14] Additionally, PGW was advised to adopt, and did in fact adopt, updated mortality tables. This change reflected the longer lifespan of beneficiaries in PGW's pension plan and resulted in the recognition of the related

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12 OSBA St. No. 1 at 8-9.

13 PGW Response to Filing Requirements II.A.3; See also, PGW Comprehensive Annual Financial Report 2015 and 2016 at 7, 57 (relevant portions of which are attached as Exh. JFG-7).

14 CAFR (PGW Exh. JFG-7) at 58.

increase in the pension liability. This change is also reflected in Note 10 to PGW's financial statements.[15] Accordingly, I don't believe that there should be any question about the appropriateness and reasonableness of the changes in pension assumptions.

V. FORFEITED DISCOUNTS

Q. PLEASE ADDRESS THE RECOMMENDATION OF I&E TO MODIFY THE CALCULATION OF FORFEITED DISCOUNTS REVENUE.

A. On pages 9-12 of I&E Statement No. 3, Mr. Apetoh recommends the use of a three-year average of the Company's most recent Historic Fiscal Years 2014, 2015, and 2016 rather than the timeframe used by PGW, which is the three-year average of Historic Fiscal Years 2012, 2013, and 2014. Use of Mr. Apetoh's proposed timeframe would result in an increase in revenues at present rates of $1,192,000 arising from a higher amount of forfeited discounts, or late payment charges.

Q. DO YOU AGREE WITH MR. APETOH'S RECOMMENDATION REGARDING FORFEITED DISCOUNT REVENUE?

A. No. Both PGW and I&E used a three year average of forfeited discounts as a percent of revenues. PGW used the three year average FY 2013 – 2015, producing a 1.3% relationship, while I&E used the three year average 2014-2016, for a 1.5% percent (PGW's projection was made prior to FY2016 data being available). Importantly, the relationship for FY2017 through April is 1.3%, the same percentage that PGW used to project FPFTY levels. The 1.3% level appears to be the norm and the FY2016 level appears to be an outlier. Accordingly, I

[15] *Id.*

continue to believe that the use of 1.3% is reasonable and Mr. Apetoh's adjustment should be rejected.

VI. COLLECTION RATE

Q. PLEASE DESCRIBE THE RECOMMENDATION OF OCA FOR THE USE OF A COLLECTION RATE OF 97%.

A. On pages 16-18 of OCA Statement No. 1, Ms. Everette recommends the use of a collection rate of 97%, rather than the 96% collection rate proposed by PGW, for purposes of calculating bad debt expense. This proposal results in an adjustment of $7,928,000.

Q. DO YOU AGREE WITH MS. EVERETTE'S RECOMMENDATION?

A. No. Although Ms. Everette is correct that the average collection rate in 2015 and 2016 was 97.76%, PGW's proposed 96% collection rate reflects the collection rate that PGW anticipates during the FPFTY. The 96% collection rate is higher than both the four-year average collection rate of 95.14% and the five-year average collection rate of 95.79%, based on Table 4 on page 17 of Ms. Everette's testimony. In addition, the collection rate for the 2017 Test Year to date through April 2017 is 96.58% on a rolling 24 month basis and 92.4% on a rolling 12 month basis.[16] Based on this data, as well as the unsettled lien issues that are pending in the Third Circuit Court, it would not be prudent to reduce bad debt expense at this time, particularly as rates are increasing. It is appropriate to use the 96% collection rate proposed by PGW and OCA's proposal to use a 97% collection rate should be rejected.

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[16] PGW Exh. JFG-8.

VII. LOBBYING EXPENSE

Q. PLEASE RESPOND TO OCA'S RECOMMENDATION TO EXCLUDE PGW'S LOBBYING EXPENSE.

A. On page 19 of OCA Statement No. 1, Ms. Everette recommends excluding PGW's lobbying expense of $228,352 for ratemaking purposes. While I understand and acknowledge the Commission's general rule with respect to lobbying expense, I respectfully submit that these amounts are reasonable for PGW. PGW is a municipal utility and therefore has an obligation to maintain lines of communication with other parts of government. Moreover, I understand that PGW's government relations professionals assist in obtaining information and appropriate funding for state and federal programs such as LIHEAP. These efforts directly benefit customers. In fact, since PGW has no shareholders, all of PGW's lobbying efforts accrue to the benefit of customers. Under these circumstances, I believe that lobbying expense should be deemed a reasonable *pro forma* expense for PGW.

VIII. RATE CASE EXPENSE

Q. PLEASE RESPOND TO THE RECOMMENDATIONS OF OCA AND I&E TO NORMALIZE RATE CASE EXPENSES OVER A FIVE-YEAR PERIOD.

A. On pages 20-21 of OCA Statement No. 1, Ms. Everette recommends that PGW's rate case expenses be normalized rather than amortized and further proposes a five-year normalization period. On pages 18-23 of I&E Statement No. 2, Mr. Keller likewise recommends that PGW's rate case expenses be normalized rather than amortized. He suggests that a 61-month normalization period be used.

PGW accepts the parties' recommendation to normalize rather than amortize its rate case expenses. However, PGW continues to believe that the proper time period for normalizing these expenses is three years. Depending upon the outcome of this proceeding, PGW currently plans to file another rate case within three years.

Q. PLEASE ADDRESS OCA'S ASSERTION THAT PGW'S RATE CASE EXPENSE IS OVERSTATED.

A. PGW is revising its rate case expense to incorporate most recent information. The following was provided in response to OCA-II-6:

Filing Requirement III.A.20. includes 2 amounts for rate case consultants - $1,150,000 and $150,000.

The amount of $1,150,000 is based on an earlier estimated scope of services to be provided by:

- The Brattle Group related to the cost of service study with related testimony, benchmarking research/analysis with related testimony and weather trending with related testimony.
- Public Financial Management related to municipal capital markets with related testimony.

The amount of $150,000 is mislabeled as "Rate Case Consultants;" this amount represents the cost of legal notices for the initial filing, legal notices for the public input hearings, printing (e.g. bill inserts, customer handouts), and external communications support.

The following are the updated amounts for the rate case consultant amount of $1,150,000 included in the filing requirements:

Brattle - original contract	$	600,000.00
Brattle Amendment (5/18/17)	$	120,000.00
PFM - orginal agreement	$	31,999.00
PFM amendment (amendment currently in process)	$	20,000.00
H. Gil Peach and Associates (agreement currently in process)	$	31,999.00
	$	803,998.00

Please note that OCA incorrectly inferred that $90,000 in expenses were in addition to the original Brattle contract amount. The contract provision permits expenses totaling 15% of professional fees but they are not in addition to the $600,000.

In addition to the $803,998, PGW also expects to incur $150,000 for the cost of legal notices for the initial filing, legal notices for the public input hearings, printing (e.g. bill inserts, customer handouts), and external communications support as set forth in OCA-II-6. Combined with a newly revised legal expense of $480,000, PGW now projects the total rate case expense is as follows:

PGW Rate Case Expense

Legal Fees, prior year	$ 7,515[17]
Consultant Fees, current year	$ 803,998
Legal Notices, etc.	$ 150,000[18]
Legal Fees, current year	$ 480,000
Total	$1,441,513

17 See PGW's response to OCA-II-6.

18 See PGW's response to OCA-II-6.

3 year normalization	$ 480,504
Prior 3 year normal claim	$ 595,000
Reduction in *pro forma* expenses	$ 114,496 (round to $115,000)

Accordingly, PGW has revised its rate case expense in JFG-1-A and JFG-2-A downward by $115,000 (original claim was $595,000).

IX. INCENTIVE COMPENSATION EXPENSE

Q. PLEASE ADDRESS OCA'S RECOMMENDATION TO EXCLUDE PGW'S INCENTIVE COMPENSATION EXPENSES.

A. On pages 24-26 of OCA Statement No. 1, Ms. Everette recommends that PGW's $115,000 expense for incentive compensation be excluded for ratemaking purposes. In offering this recommendation, Ms. Everette claims that there is a lack of well-defined, quantitative goals and criteria upon which the executive incentive compensation is based.

Q. DO YOU AGREE WITH OCA'S CONTENTION REGARDING THE LACK OF QUANTITATIVE GOALS AND CRITERIA FOR THIS INCENTIVE COMPENSATION?

A. No, I do not. Incentive compensation is a practice of the Board of Directors of the Philadelphia Facilities Management Corporation (PGW's Board of Directors) and is designed to promote the successful completion of annual corporate goals. PGW's corporate goals that were used for determining the incentive compensation for fiscal year 2017 are as follows:

CUSTOMER SERVICE	
Customer Satisfaction	Continued improvement in JD Power average annual score ➢ Obtain a score of 2% above the 2016 four quarter average of 659 = 672
SAFETY	
Reportable Incidents	➢ 0 Reportable incidents per year PUC/PHMSA "Reportable Incidents per year" due to PGW process

	or procedure failure (To the extent an incident occurred requiring notification of PUC/PHMSA that Management believes was not due to process/procedure failure, Management will report the circumstances to the Board.)
EMPLOYEE	
Incidents	➢ OSHA Safety Rate ➢ Number of PMVA History: OSHA 3 yr. average: 5.64 GOAL – 5% below 3 yr. average: 5.35 PMVA 3 yr. average: 72 GOAL – 5% below 3 yr. average: 68 OSHA Safety Rate = multiply the number of recordable cases by 200,000, then divide that number by the number of labor hours
FINANCIAL	
Revenue Enhancement	➢ Additional top line revenue from new business (non-LNG) $7.0M History: FY2014: $7.1M FY2015: $7.5M FY2016: $6.5M 3 year average: $7.0M
Collections	➢ Obtain a collection rate of 96.0% of total billed revenues as measured on a 24 month rolling average.
OPERATIONS	
Cast Iron Main Reduction	➢ Annual goal for cast iron main reduction is 35 miles with a program spend of $53M

These corporate goals and criteria for 2017 were provided to OCA in discovery.[19] As the rate case is using a FPFTY, the corporate goals for FY 2018 are not yet available. However, it is anticipated that a similar methodology will be utilized for FY 2018. PGW submits that this information sufficiently supports its claim for incentive compensation expense.

19 PGW Response to OCA Interrogatory IX-2.

X. INSURANCE EXPENSE

Q. PLEASE ADDRESS OCA'S RECOMMENDATION TO EXCLUDE A PORTION OF THE INSURANCE COMPONENT OF RISK MANAGEMENT EXPENSE WHICH IS PART OF PGW'S TOTAL CLAIM FOR ADMINISTRATIVE AND GENERAL EXPENSE.

A. On pages 26-27 of OCA Statement No. 1, Ms. Everette recommends the exclusion of the $250,000 Insurance expense associated with insurance needs relating to planned expansion of PGW's liquefied natural gas plant. Ms. Everette contends that this expense should be excluded because the plant expansion may not occur.

Q. WHAT IS YOUR RESPONSE TO MS. EVERETTE'S RECOMMENDATION?

A. PGW accepts this adjustment. In JFG-1 and JFG-2 I have adjusted *pro forma* revenues to remove this amount from the FPFTY.

XI. PAYROLL EXPENSE

Q. PLEASE ADDRESS I&E'S PROPOSED REDUCTION TO PGW'S CLAIM FOR PAYROLL EXPENSE.

A. On pages 3-6 of I&E Statement No. 2, Mr. Keller recommends a reduction of $2,212,320 to PGW's claim of $91,530,680 for payroll expense. As explained by Mr. Keller, his recommendation excludes 40 positions from the FPFTY to reflect the average monthly vacancy rate of 40 positions for the last three years.

Q. DO YOU AGREE WITH MR. KELLER'S PROPOSED ADJUSTMENT?

A. No. PGW's claim for payroll expense in the FPFTY is based on a headcount of 1,650 employees. Currently (as of June, 2017), PGW has 1,648 employees, with the count trending up, and plans to stay at that level, or just two less than the level assumed in the FPFTY. The number of vacancies to which Mr. Keller referred, and on which he based his adjustment actually reflects the expectations of the Company to employ 1,690 individuals. But PGW did not use that expectation in formulating FPFTY payroll expense. Therefore, it would be inappropriate to exclude 40 positions from PGW's claim for payroll expense and I&E's proposed adjustment should be rejected.

Q. PLEASE RESPOND TO I&E'S PROPOSAL TO REDUCE PGW'S CLAIM FOR PAYROLL TAX EXPENSE.

A. On pages 6-7 of I&E Statement No. 2, Mr. Keller proposes to reduce PGW's claim for payroll tax expense by $199,109 to correspond to his recommended adjustment to payroll expense. This adjustment should be likewise rejected for the reasons explained in the answer above regarding PGW's claim for payroll expense.

XII. <u>DISTRIBUTION EXPENSE</u>

Q. PLEASE ADDRESS I&E'S RECOMMENDED REDUCTION FOR PGW'S CLAIM FOR MAINTENANCE CONTRACTORS.

A. On pages 7-9 of I&E Statement No. 2, Mr. Keller recommends a $450,000 reduction in PGW's claim for maintenance contractors. This proposed adjustment is based on the normalization of hydrostatic testing, which occurs once every ten years. However, because this expense was incurred during the 2017 Future Test Year, PGW did not include this expense in the FPFTY. Thus, Mr. Keller reduced PGW's FPFTY claim for an amount that it never claimed, and I&E's proposed adjustment is unwarranted.

Q. PLEASE ADDRESS I&E'S PROPOSAL TO REDUCE PGW'S CLAIM FOR INFORMATION SERVICES.

A. On pages 10-11 of I&E Statement No. 2, Mr. Keller proposes to reduce PGW's claim for information services by $634,163. In support of this recommended adjustment, Mr. Keller contends that PGW has not provided supporting documentation to show how the allocation of overhead charges was calculated or how the increase in per unit cost is determined.

Q. ARE MR. KELLER'S ASSERTIONS REGARDING INFORMATION SERVICES CORRECT?

A. No. As PGW fully explained in I&E Exhibit No. 2, Schedule 6 (PGW Answer to OCA-VI-22), information services expenses are overheard charges that are applied to various departments and are charged to various operating and capital accounts. The methodology used to determine these expenses is directly tied to the number of devices, such as computers and phones, that are used (or projected to be used) by each department and the unit cost. Importantly, in preparing its operating budget, PGW surveys each department and requests that they provide their existing levels of services and equipment as well as a projection of how those levels will change in the budget year. The data is then used to calculate the direct costs for the department. I have attached as Exh. JFG-5 a narrative description of the budget allocation model used by PGW. For Information Services, approximately $400,000 of the increase in expenses is due to an increase in direct allocations year over year for leases, purchases, services, maintenance software and department labor, while approximately $155,000 of the increase is due to an increase in per unit cost. I submit that PGW fully responded to the inquiry and provided sufficient information to establish how the FPFTY projection was calculated and why it is reasonable. This additional discussion should affirm the reasonableness of PGW's projections.

Q. PLEASE ADDRESS I&E'S PROPOSAL TO REDUCE PGW'S CLAIM FOR STREET MACHINERY.

A. On pages 11-12 of I&E Statement No. 2, Mr. Keller proposes to reduce PGW's claim for street machinery by $656,697. Again, Mr. Keller contends that PGW has failed to provide supporting documentation to show how the increase was calculated or determined.

Q. DO YOU AGREE WITH MR. KELLER'S CONTENTION REGARDING STREET MACHINERY?

A. No. I note that I&E did not seek supporting documentation in the interrogatory that is referenced in I&E Exhibit No. 2, Schedule 7. As for an explanation of these increases, the breakdown is shown in I&E Exhibit No. 2, Schedule 7 (PGW Answer to OCA-VI-23), for a total of $632,697 increase, as follows:

- Mains & Services Miscellaneous Expenses - $23,000
- Maintenance of Mains - $455,000
- Maintenance of Measuring & Regulation Station - $35,000
- Maintenance of Services - $120,000

In PGW's view, this breakdown adequately explains the increases in street machinery expenses. In addition, attached as Exh. JFG-6 is a narrative description of PGW's Fleet Allocation Budget Model, which is the basis for PGW's budgeted amounts for street machinery in the FPFTY. This narrative shows that PGW starts with its existing level of activity and then carefully evaluates that level for changes in the budget period. Accordingly, PGW submits that its FPFTY projection for street vehicles is reasonable and well documented and I&E's proposed reduction should be rejected.

XIII. COLLECTION EXPENSE

Q. PLEASE RESPOND TO I&E'S PROPOSED REDUCTION FOR COLLECTION EXPENSE.

A. On pages 13-15 of I&E Statement No. 2, Mr. Keller proposes to reduce PGW's collection expense by $900,676. In support of this recommendation, he uses the Historical Test Year ("HTY") amount for PGW's claim for purchased services and maintains that PGW did not provide documentation to show how the costs associated with an increase in the number of third party collectors and the anticipated use of third party administrator to manage its collections were calculated or determined. To the contrary, I&E Exhibit No. 2, Schedule 10 (PGW Answer to I&E-RE-42), explains each element of the projected increases, noting that increasing from five to ten third party collection agencies would increase PGW's costs by $400,000, and that the Company's projected cost of contracting with a third party administrator would result in an increase of $500,000. It is not clear to me what additional information PGW could have provided to show how this projection was determined. It may be that Mr. Keller is seeking the kind of documentary evidence that would be produced in an audit; such a standard of proof is clearly not appropriate when making projections for a fully projected test year. Therefore, I&E's proposed adjustment should be rejected.

XIV. CUSTOMER SERVICE EXPENSE

Q. PLEASE ADDRESS THE I&E PROPOSAL TO REDUCE CUSTOMER SERVICE EXPENSE.

A. On pages 15-16 of I&E Statement No. 2, Mr. Keller proposes to reduce customer service expense in the amount of $331,244, claiming that PGW has not provided supporting documentation to show how the increase in per unit cost of equipment was determined. To the contrary, I&E Exhibit No. 2, Schedule 11 (PGW Answer to OCA-VI-27), provides the reason for this increase, explaining increases that were actually incurred on a per unit basis to purchase computers, monitors, printers, etc. Again, the question requests a "breakdown and explanation," which PGW provided. If Mr. Keller found this answer wanting he could have asked PGW for additional back-up, which it has. Therefore, I&E's proposed adjustment appears to be seeking a level of "proof" that cannot be provided in future projections and should be rejected.

XV. ACCOUNT MANAGEMENT EXPENSE

Q. PLEASE RESPOND TO I&E'S RECOMMENDATION TO REDUCE PGW'S CLAIM FOR ACCOUNT MANAGEMENT EXPENSE.

A. On pages 16-17 of I&E Statement No. 2, Mr. Keller proposes to reduce PGW's claim for account management expense by $294,483, using the HTY amount for purchased services. This recommendation is based on his claim that PGW has not provided supporting documentation to show how the increases in the inflationary costs and costs associated with bill printing and processing vendor contracts were determined.

Q. IN YOUR VIEW, IS MR. KELLER CORRECT THAT THIS EXPLANATION IS DEFICIENT?

A. No. To the contrary, I&E Exhibit No. 2, Schedule 12 (PGW Answer to I&E-RE-25-D) explains the inflationary cost increases and expansion of services associated with the renewals of PGW's bill print and remittance processing vendor contracts. Again, given that these are projections of expenses in a year that has yet to begin, I believe that PGW's detailed explanation and breakdowns is more than adequate. Therefore, I&E's proposed adjustment should be rejected.

XVI. PENSION EXPENSE

Q. PLEASE ADDRESS I&E'S RECOMMENDATION TO DISALLOW $3,000,000 IN PENSION EXPENSES.

A. On pages 23- 26 of I&E Statement No. 2, Mr. Keller recommends disallowance of $3,000,0000 in pension expenses in the debt service coverage calculation, which represents the pension fund amount included in determining a higher debt service coverage ratio. In making this recommendation, Mr. Keller is seeking to allow PGW to claim only the cash contribution into the pension plan in the FPFTY.

Q. CAN YOU COMMENT ON MR. KELLER'S POSITION?

A. I agree with Mr. Keller's observation – but not his quantification of the adjustment. PGW inadvertently omitted removing $1,971,000 in additional pension expense when calculating the Debt Service Coverage calculation; however, Mr. Keller referenced the FY 2017 additional pension expense of $3,000,000 instead of the FY 2018 additional pension expense of $1,971,000 in his testimony (see PGW's response to question I&E-RE-34). Consequently, non-cash expenses found on Exhibit JFG-1-A page 3, line 11, should increase from

$78,214,000 in the FPFTY 2018 to $80,185,000. The Debt Service Coverage calculation will then increase by 2 basis points from 1.51x to 1.53x (at present rates).[20]

Q. PLEASE RESPOND TO I&E'S CLAIM THAT UNFUNDED PENSION LIABILITY IS INCLUDED IN THE REVENUE REQUIREMENT.

A. On pages 26-27 of I&E Statement No. 2, Mr. Keller claims that although PGW's request to recover unfunded pension liability is not included in the revenue requirement as a traditional expense item, the Company has requested coverage for a portion of the unfunded pension liability as part of its rationale for higher debt service coverage ratio.

Q. DO YOU AGREE WITH MR. KELLER ON THIS POINT?

A. Yes. As I indicated above PGW inadvertently failed to exclude $1,971,000 as a non-cash item for pension expense when calculating its debt service coverage. As indicated above, PGW's revised financial statements removes this amount from the debt service coverage calculation (Exh. JFG-1-A ln. 11).

XVII. HEALTH INSURANCE FUNDING

Q. PLEASE RESPOND TO I&E'S RECOMMENDATIONS CONCERNING HEALTH INSURANCE FUNDING.

A. On pages 27-30 of I&E Statement No. 2, Mr. Keller recommends that: (i) the Commission instruct PGW to re-establish the Health Insurance Escrow Fund; (ii) the funds deposited in the Health Insurance Escrow Fund be restricted for use in

[20] Please note that while I agree that this item should not be included in the calculation of the debt service coverage, it, nonetheless is an item that PGW must remit. Accordingly, I have shown it as an obligation that must be satisfied from Net Available after 1998 Debt Service on pages 8 and 9, of this Testimony.

funding medical claims and health insurance administrative costs; (iii) the Company be required to provide actuarial reports and historical escrow account performance data for each intervening test year leading up to the Company's next base rate case; and (iv) the Company secure competitive health insurance quotes from the insurance industry at least biennially.

Q. WHAT IS PGW'S POSITION WITH RESPECT TO RECREATING A HEALTH ESCROW ACCOUNT?

A. PGW is willing to establish a health escrow account but doing so will add to PGW's revenue requirement as, by its very nature, the health escrow will have to be set aside and will not be able to be used to cover other obligations. Accordingly, PGW has added an additional $1,167,000 to the revenue requirement to fund this account over the next three years to produce a fund of $3,500,000. PGW's collective bargaining agreement restricts PGW to use certain carriers for health care so PGW's ability to alter its health insurance carrier is limited. Additionally, since PGW is self-insured with a stop-loss program in place PGW is not certain that obtaining competitive health insurance quotes will result in material changes in its health care costs. However, the Commission should be assured that PGW and its health care advisors are continually analyzing various options to determine whether costs can be reduced. That is how PGW came to adopt a self-insurance model which, as was explained in Mr. Moser's direct testimony, reduced PGW health care costs by tens of millions of dollars.

XVIII. <u>CONCLUSION</u>

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Exhibit JFG-1-A

PHILADELPHIA GAS WORKS
STATEMENT OF INCOME
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	ACTUAL 2015-16	30-YR HDD BUDGET 2016-17	10-YR HDD FORECAST 2017-18	ADJUST	REVISED 10-YR HDD FORECAST 2017-18	10-YR HDD FORECAST 2018-19	ADJUST	REVISED 10-YR HDD FORECAST 2018-19	10-YR HDD FORECAST 2019-20	ADJUST	REVISED 10-YR HDD FORECAST 2019-20	10-YR HDD FORECAST 2020-21	ADJUST	REVISED 10-YR HDD FORECAST 2020-21	10-YR HDD FORECAST 2021-22	ADJUST	REVISED 10-YR HDD FORECAST 2021-22	LINE NO.
	OPERATING REVENUES																			
1	Non-Heating	$ 30,753	$ 21,873	$ 26,425	$ 26,230	$ -	$ 26,230	$ 25,378	$ -	$ 25,378	$ 24,494	$ -	$ 24,494	$ 23,651	$ -	$ 23,651	$ 22,873	$ -	$ 22,873	1.
2	Gas Transport Service	39,962	38,550	45,674	44,614	-	44,614	46,222	-	46,222	47,594	-	47,594	48,853	-	48,853	50,055	-	50,055	2.
3	Heating	618,164	472,275	524,234	534,832	-	534,832	543,666	-	543,666	552,484	-	552,484	561,520	-	561,520	571,396	-	571,396	3
4.	Weather Normalization Adjustment	(10,747)	41,479	5,905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
5.	Unbilled Adjustment	(2,105)	(1,830)	1,673	315	-	315	104	-	104	83	-	83	119	-	119	109	-	109	5.
6.	Total Gas Revenues	676,027	572,347	603,911	605,991	-	605,991	615,370	-	615,370	624,655	-	624,655	634,143	-	634,143	644,433	-	644,433	6.
7.	Appliance Repair & Other Revenues	8,727	7,962	8,162	8,265	-	8,265	8,347	-	8,347	8,431	-	8,431	8,515	-	8,515	8,601	-	8,601	7.
8	Other Operating Revenues	12,493	10,928	13,023	12,757	-	12,757	12,903	-	12,903	13,044	-	13,044	13,186	-	13,186	13,339	-	13,339	8
9.	Total Other Operating Revenues	21,220	18,890	21,205	21,022	-	21,022	21,250	-	21,250	21,475	-	21,475	21,701	-	21,701	21,940	-	21,940	9.
10.	**Total Operating Revenues**	697,247	591,237	625,116	627,013	-	627,013	636,620	-	636,620	646,130	-	646,130	655,844	-	655,844	666,373	-	666,373	10.
	OPERATING EXPENSES																			
11.	Natural Gas	252,158	146,515	176,731	184,960	-	184,960	191,471	-	191,471	197,808	-	197,808	204,518	-	204,518	211,904	-	211,904	11.
12.	Other Raw Material	11	9	10	10	-	10	10	-	10	10	-	10	10	-	10	10	-	10	12.
13.	Sub-Total Fuel	252,169	146,524	176,741	184,970	-	184,970	191,481	-	191,481	197,818	-	197,818	204,528	-	204,528	211,914	-	211,914	13.
14	CONTRIBUTION MARGINS	445,078	444,713	448,375	442,043	-	442,043	445,139	-	445,139	448,312	-	448,312	451,316	-	451,316	454,459	-	454,459	14
15	Gas Processing	18,180	17,948	17,666	17,521	-	17,521	17,837	-	17,837	18,216	-	18,216	18,457	-	18,457	18,857	-	18,857	15.
16.	Field Services	36,874	36,276	38,369	40,340	-	40,340	41,299	-	41,299	42,096	-	42,096	42,611	-	42,611	43,456	-	43,456	16.
17.	Distribution	38,629	37,173	41,690	42,562	-	42,562	43,528	-	43,528	44,358	-	44,358	44,925	-	44,925	45,824	-	45,824	17.
18.	Collection	3,457	3,341	4,354	4,420	-	4,420	4,519	-	4,519	4,609	-	4,609	4,651	-	4,651	4,695	-	4,695	18
19.	Customer Service	12,262	12,432	13,503	13,807	-	13,807	14,126	-	14,126	14,408	-	14,408	14,627	-	14,627	14,919	-	14,919	19.
20.	Account Management	7,735	7,571	8,399	8,487	-	8,487	8,671	-	8,671	8,844	-	8,844	8,977	-	8,977	9,157	-	9,157	20.
21.	Bad Debt Expense	34,833	27,133	30,654	26,956	-	26,956	27,639	-	27,639	28,347	-	28,347	28,804	-	28,804	28,834	-	28,834	21.
22	Marketing	6,956	3,671	4,355	4,439	-	4,439	4,538	-	4,538	4,625	-	4,625	4,694	-	4,694	4,785	-	4,785	22.
23	Administrative & General	60,253	67,139	69,025	66,334	(365)	65,969	66,160	(115)	66,045	67,162	(115)	67,047	67,518	-	67,518	68,595	-	68,595	23
24	Health Insurance	51,051	53,370	58,305	30,811	-	30,811	33,641	-	33,641	36,627	-	36,627	39,880	-	39,880	43,424	-	43,424	24.
25.	Environmental Remediation	-	-	-	-	-	-	2,045	-	2,045	1,696	-	1,696	927	-	927	997	-	997	25.
26.	Capitalized Fringe Benefits	(8,860)	(10,077)	(11,537)	(11,620)	-	(11,620)	(12,238)	-	(12,238)	(12,937)	-	(12,937)	(13,744)	-	(13,744)	(14,613)	-	(14,613)	26
27.	Capitalized Administrative Charges	(9,097)	(10,778)	(15,791)	(12,945)	-	(12,945)	(13,738)	-	(13,738)	(13,409)	-	(13,409)	(14,032)	-	(14,032)	(15,579)	-	(15,579)	27
28.	Pensions	43,748	62,336	65,022	51,800	-	51,800	40,308	-	40,308	39,678	-	39,678	22,691	-	22,691	20,383	-	20,383	28
29.	Taxes	7,823	7,521	8,232	8,437	-	8,437	8,647	-	8,647	8,821	-	8,821	8,997	-	8,997	9,177	-	9,177	29.
30.	Other Post Employment Benefits	6,726	9,929	6,832	31,028	-	31,028	29,663	-	29,663	28,023	-	28,023	26,045	-	26,045	23,683	-	23,683	30.
31.	Cost / Labor Savings	-	-	(2,073)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.
32.	Sub-Total Other Operating & Maintenance	310,570	324,985	337,805	322,377	(365)	322,012	316,645	(115)	316,530	321,164	(115)	321,049	306,028	-	306,028	306,594	-	306,594	32
33	Depreciation	48,474	47,894	48,842	50,596	-	50,596	52,436	-	52,436	54,244	-	54,244	56,019	-	56,019	57,827	-	57,827	33.
34	Cost of Removal	2,897	3,785	4,100	4,100	-	4,100	4,100	-	4,100	4,100	-	4,100	4,100	-	4,100	4,100	-	4,100	34.
35	To Clearing Accounts	(5,584)	(6,231)	(6,771)	(7,516)	-	(7,516)	(7,562)	-	(7,562)	(7,579)	-	(7,579)	(7,219)	-	(7,219)	(7,186)	-	(7,186)	35.
36.	Net Depreciation	43,787	45,448	46,171	47,180	-	47,180	48,974	-	48,974	50,765	-	50,765	52,900	-	52,900	54,741	-	54,741	36.
37.	**Sub-Total Other Operating Expenses**	354,357	370,433	383,976	369,557	(365)	369,192	365,619	(115)	365,504	371,929	(115)	371,814	358,928	-	358,928	361,335	-	361,335	37.
38.	**TOTAL OPERATING EXPENSES**	606,526	516,957	560,717	554,527	(365)	554,162	557,100	(115)	556,985	569,747	(115)	569,632	563,456	-	563,456	573,249	-	573,249	38.
39.	OPERATING INCOME	90,721	74,280	64,399	72,486	365	72,851	79,520	115	79,635	76,383	115	76,498	92,388	-	92,388	93,124	-	93,124	39
40.	**Interest Gain / (Loss) and Other Income**	3,784	1,393	2,898	3,031	-	3,031	2,684	-	2,684	2,879	-	2,879	3,291	-	3,291	2,890	-	2,890	40.
41.	INCOME BEFORE INTEREST	94,505	75,673	67,297	75,517	365	75,882	82,204	115	82,319	79,262	115	79,377	95,679	-	95,679	96,014	-	96,014	41.
	INTEREST					-			-			-			-			-		
42.	Long-Term Debt	45,756	40,295	44,834	49,160	-	49,160	46,807	-	46,807	48,736	-	48,736	50,601	-	50,601	47,766	-	47,766	42.
43.	Other	7,448	3,966	(4,059)	(6,893)	-	(6,893)	(6,252)	-	(6,252)	(5,519)	-	(5,519)	(4,764)	-	(4,764)	(4,004)	-	(4,004)	43
44.	AFUDC	(781)	(1,120)	(1,136)	(920)	-	(920)	(985)	-	(985)	(964)	-	(964)	(997)	-	(997)	(1,030)	-	(1,030)	44
45	Loss From Extinguishment of Debt	4,100	4,478	6,081	5,666	-	5,666	5,300	-	5,300	4,894	-	4,894	4,490	-	4,490	4,072	-	4,072	45.
46	*Total Interest*	56,523	47,619	45,720	47,013	-	47,013	44,870	-	44,870	47,149	-	47,149	49,310	-	49,310	46,804	-	46,804	46
47.	NET INCOME	37,982	28,054	21,577	28,504	365	28,869	37,334	115	37,449	32,113	115	32,228	46,369	-	46,369	49,210	-	49,210	47.
48.	City Payment	18,000	18,000	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	48
49	NET EARNINGS	$ 19,982	$ 10,054	$ 3,577	$ 10,504	$ 365	$ 10,869	$ 19,334	$ 115	$ 19,449	$ 14,113	$ 115	$ 14,228	$ 28,369	$ -	$ 28,369	$ 31,210	$ -	$ 31,210	49.

PHILADELPHIA GAS WORKS
CASH FLOW STATEMENT
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	ACTUAL 2015-16	30-YR HDD BUDGET 2016-17	10-YR HDD FORECAST 2017-18	ADJUST	REVISED 10-YR HDD FORECAST 2017-18	10-YR HDD FORECAST 2018-19	ADJUST	REVISED 10-YR HDD FORECAST 2018-19	10-YR HDD FORECAST 2019-20	ADJUST	REVISED 10-YR HDD FORECAST 2019-20	10-YR HDD FORECAST 2020-21	ADJUST	REVISED 10-YR HDD FORECAST 2020-21	10-YR HDD FORECAST 2021-22	ADJUST	REVISED 10-YR HDD FORECAST 2021-22	LINE NO.
	SOURCES																			
1.	Net Income	$ 37,982	$ 28,054	$ 21,577	$ 28,504	$ 365	$ 28,869	$ 37,334	$ 115	$ 37,449	$ 32,113	$ 115	$ 32,228	$ 46,369	$ -	$ 46,369	$ 49,210	$ -	$ 49,210	1
2.	Depreciation & Amortization	53,258	50,371	45,049	47,000	-	47,000	49,114	-	49,114	51,246	-	51,246	53,350	-	53,350	55,518	-	55,518	2
3.	Earnings on Restricted Funds Withdrawal/(No Withdrawal)	7,051	23	(1,663)	(1,324)	-	(1,324)	(958)	-	(958)	(1,133)	-	(1,133)	(1,224)	-	(1,224)	(1,104)	-	(1,104)	3
4.	Proceeds from Bond Refunding to Pay Cost of Issuance	-	-	2,700	-	-	-	-	-	-	500	-	500	-	-	-	-	-	-	4.
5	Increased/(Decreased) Other Assets/Liabilities	23,896	28,209	29,078	(5,274)	-	(5,274)	(18,246)	-	(18,246)	(31,091)	-	(31,091)	(46,024)	-	(46,024)	(53,725)	-	(53,725)	5.
6.	Available From Operations	121,887	106,657	96,741	68,906	365	69,271	67,244	115	67,359	51,635	115	51,750	52,471	-	52,471	49,899	-	49,899	6.
7.	Drawdown of Bond Proceeds	-	-	65,000	52,000	-	52,000	57,000	-	57,000	55,000	-	55,000	57,000	-	57,000	59,000	-	59,000	7.
8.	Release of Restricted Fund Assets	6,562	6,673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
9.	Release of Bond Proceeds to Pay Temporary Financing	-	-	71,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.
10.	Temporary Financing	30,000	41,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
11.	TOTAL SOURCES	160,549	154,330	232,741	120,906	365	121,271	124,244	115	124,359	106,635	115	106,750	109,471	-	109,471	108,899	-	108,899	11.
	USES																			
12	Net Construction Expenditures	85,499	100,333	132,632	109,010	-	109,010	115,628	-	115,628	113,149	-	113,149	117,009	-	117,009	120,996	-	120,996	12.
12-A	Deposit into Restricted Health Escrow Fund	-	-	-	-	1,167	1,167	-	1,167	1,167	-	1,167	1,167	-	-	-	-	-	-	12-A
13	Funded Debt Reduction	13,503	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
14.	Revenue Bonds	62,190	53,825	34,790	51,834	-	51,834	47,747	-	47,747	62,905	-	62,905	44,084	-	44,084	57,749	-	57,749	14
15.	Temporary Financing Repayment	-	-	71,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.
16.	Distribution of Earnings	18,000	18,000	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	16
	Additions To (Reductions of)					-			-			-			-			-		
17.	Non-Cash Working Capital	(27,236)	4,758	(37,738)	423	-	423	1,149	-	1,149	(2,783)	-	(2,783)	(564)	-	(564)	175	-	175	17.
18.	Cash Needs	151,956	176,914	218,684	179,267	1,167	180,434	182,524	1,167	183,691	191,271	1,167	192,438	178,529	-	178,529	196,920	-	196,920	18
19.	Cash Surplus (Shortfall)	8,593	(22,584)	14,057	(58,361)	(802)	(59,163)	(58,280)	(1,052)	(59,332)	(84,636)	(1,052)	(85,688)	(69,058)	-	(69,058)	(88,021)	-	(88,021)	19
20.	TOTAL USES	160,549	154,330	232,741	120,906	365	121,271	124,244	115	124,359	106,635	115	106,750	109,471	-	109,471	108,899	-	108,899	20.
21.	Cash - Beginning of Period	105,734	114,327	91,743	105,800	-	105,800	47,439	(802)	46,637	(10,841)	(1,854)	(12,695)	(95,477)	(2,906)	(98,383)	(164,535)	(2,906)	(167,441)	21.
22.	Cash - Surplus (Short'all)	8,593	(22,584)	14,057	(58,361)	(802)	(59,163)	(58,280)	(1,052)	(59,332)	(84,636)	(1,052)	(85,688)	(69,058)	-	(69,058)	(88,021)	-	(88,021)	22
23.	ENDING CASH	$ 114,327	$ 91,743	105,800	$ 47,439	$ (802)	$ 46,637	$ (10,841)	$ (1,854)	$ (12,695)	$ (95,477)	$ (2,906)	$ (98,383)	$ (164,535)	$ (2,906)	$ (167,441)	$ (252,555)	$ (2,906)	$ (255,461)	23
24.	Outstanding Commercial Paper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.
25	Outstanding Commercial Paper - Capital	30,000	71,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
26.	DSIC Revenue	13,764	26,253	32,541	30,579	-	30,579	30,895	-	30,895	31,214	-	31,214	31,518	-	31,518	31,846	-	31,846	26
27.	Internally Generated Funds	31,735	33,080	35,091	26,431	-	26,431	27,733	-	27,733	26,935	-	26,935	28,491	-	28,491	30,150	-	30,150	27.
28	TOTAL IGF + Incremental DSIC Revenue	45,499	59,333	67,632	57,010	-	57,010	58,628	-	58,628	58,149	-	58,149	60,009	-	60,009	61,996	-	61,996	28.

PHILADELPHIA GAS WORKS
DEBT SERVICE COVERAGE
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	ACTUAL 2015-16	30-YR HDD BUDGET 2016-17	10-YR HDD FORECAST 2017-18	ADJUST	REVISED 10-YR HDD FORECAST 2017-18	10-YR HDD FORECAST 2018-19	ADJUST	REVISED 10-YR HDD FORECAST 2018-19	10-YR HDD FORECAST 2019-20	ADJUST	REVISED 10-YR HDD FORECAST 2019-20	10-YR HDD FORECAST 2020-21	ADJUST	REVISED 10-YR HDD FORECAST 2020-21	10-YR HDD FORECAST 2021-22	ADJUST	REVISED 10-YR HDD FORECAST 2021-22	LINE NO.
	FUNDS PROVIDED																			
1.	Total Gas Revenues	$ 676,027	$ 572,347	$ 603,911	$ 605,991	$ -	$ 605,991	$ 615,370	$ -	$ 615,370	$ 624,655	$ -	$ 624,655	$ 634,143	$ -	$ 634,143	$ 644,433	$ -	$ 644,433	1.
2.	Other Operating Revenues	21,220	18,890	21,205	21,022	-	21,022	21,250	-	21,250	21,475	-	21,475	21,701	-	21,701	21,940	-	21,940	2.
3	Total Operating Revenues	697,247	591,237	625,116	627,013	-	627,013	636,620	-	636,620	646,130	-	646,130	655,844	-	655,844	666,373	-	666,373	3
4	Other Income Incr / (Decr) Restricted Funds	10,835	1,416	1,235	1,707	-	1,707	1,726	-	1,726	1,746	-	1,746	2,067	-	2,067	1,786	-	1,786	4.
5	City Grant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
6	AFUDC (Interest)	781	1,120	1,136	920	-	920	985	-	985	964	-	964	997	-	997	1,030	-	1,030	6
7.	TOTAL FUNDS PROVIDED	708,863	593,773	627,487	629,640	-	629,640	639,331	-	639,331	648,840	-	648,840	658,908	-	658,908	669,189	-	669,189	7.
	FUNDS APPLIED																			
8	Fuel Costs	252,169	146,524	176,741	184,970	-	184,970	191,481	-	191,481	197,818	-	197,818	204,528	-	204,528	211,914	-	211,914	8.
9	Other Operating Costs	354,357	370,433	383,976	369,557	(365)	369,192	365,619	(115)	365,504	371,929	(115)	371,814	358,928	-	358,928	361,335	-	361,335	9
10	Total Operating Expenses	606,526	516,957	560,717	554,527	(365)	554,162	557,100	(115)	556,985	569,747	(115)	569,632	563,456	-	563,456	573,249	-	573,249	10.
11.	Less Non-Cash Expenses	74,535	89,059	92,630	78,214	1,971	80,185	68,463	1,554	70,017	69,770	1,141	70,911	55,503	613	56,116	55,924	97	56,021	11.
12	TOTAL FUNDS APPLIED	531,991	427,898	468,087	476,313	(2,336)	473,977	488,637	(1,669)	486,968	499,977	(1,256)	498,721	507,953	(613)	507,340	517,325	(97)	517,228	12.
13	Funds Available to Cover Debt Service	176,872	165,875	159,400	153,327	2,336	155,663	150,694	1,669	152,363	148,863	1,256	150,119	150,955	613	151,568	151,864	97	151,961	13.
14.	1975 Ordinance Bonds Debt Service	26,904	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.
15.	Debt Service Coverage 1975 Bonds	6.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
16.	Net Available after Prior Debt Service	149,968	165,875	159,400	153,327	2,336	155,663	150,694	1,669	152,363	148,863	1,256	150,119	150,955	613	151,568	151,864	97	151,961	16
17.	Equipment Leasing Debt Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.
18.	Net Available after Prior Capital Leases	149,968	165,675	159,400	153,327	2,336	155,663	150,694	1,669	152,363	148,863	1,256	150,119	150,955	613	151,568	151,864	97	151,961	18
19.	1998 Ordinance Bonds Debt Service	70,139	77,867	66,868	101,720	-	101,720	95,276	-	95,276	97,858	-	97,858	95,459	-	95,459	106,342	-	106,342	19
20	1999 Ordinance Subordinate Bonds Debt Service - (TXCP)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.
21.	Total 1998 Ordinance Debt Service	70,139	77,867	66,868	101,720	-	101,720	95,276	-	95,276	97,858	-	97,858	95,459	-	95,459	106,342	-	106,342	21.
22.	**Debt Service Coverage 1998 Bonds**	**2.14**	**2.13**	**2.38**	**1.51**	**0.02**	**1.53**	**1.58**	**0.02**	**1.60**	**1.52**	**0.01**	**1.53**	**1.58**	**0.01**	**1.59**	**1.43**	**0.00**	**1.43**	22.
23.	Net Available after 1998 Debt Service	79,829	88,008	92,532	51,607	2,336	53,943	55,418	1,669	57,087	51,005	1,256	52,261	55,496	613	56,109	45,522	97	45,619	23
24	Aggregate Debt Service	97,043	77,867	66,868	101,720	-	101,720	95,276	-	95,276	97,858	-	97,858	95,459	-	95,459	106,342	-	106,342	24
25	Debt Service Coverage (Combined liens)	1.82	2.13	2.38	1.51	0.02	1.53	1.58	0.02	1.60	1.52	0.01	1.53	1.58	0.01	1.59	1.43	0.00	1.43	25.
26.	Debt Service Coverage (Combined liens with $18.0 City Fee)	1.64	1.90	2.11	1.33	0.02	1.35	1.39	0.02	1.41	1.34	0.01	1.35	1.39	0.01	1.40	1.26	0.00	1.26	26

PHILADELPHIA GAS WORKS
BALANCE SHEET
(Dollars in Thousands)

LINE NO.		ACTUAL 8/31/15	ACTUAL 8/31/16	30-YR HDD BUDGET 8/31/17	10-YR HDD FORECAST 8/31/18	ADJUST	REVISED 10-YR HDD FORECAST 8/31/18	10-YR HDD FORECAST 8/31/19	ADJUST	REVISED 10-YR HDD FORECAST 8/31/19	10-YR HDD FORECAST 8/31/20	ADJUST	REVISED 10-YR HDD FORECAST 8/31/20	10-YR HDD FORECAST 8/31/21	ADJUST	REVISED 10-YR HDD FORECAST 8/31/21	10-YR HDD FORECAST 8/31/22	ADJUST	REVISED 10-YR HDD FORECAST 8/31/22	LINE NO.
	ASSETS																			
1.	Utility Plant Net	1,232,370	1,284,810	1,368,600	1,427,014		1,427,014	1,490,206		1,490,206	1,549,111		1,549,111	1,610,101		1,610,101	1,673,270		1,673,270	#####
2.	Sinking Fund Reserve	90,141	86,652	105,196	108,253		108,253	107,320		107,320	120,248		120,248	121,456		121,456	122,678		122,676	#####
3.	Capital Improvement Fund	-	-	113,603	61,664		61,664	4,742		4,742	117,435		117,435	60,431		60,431	1,295		1,295	#####
	Workers' Compensation Fund																			
4.	& Health Insurance Escrow	5,820	2,603	2,610	2,616	1,167	3,783	2,629	2,334	4,963	2,642	3,501	6,143	2,662	3,501	6,163	2,682	3,501	6,183	#####
5	Cash	114,327	91,743	105,800	47,439	(802)	46,637	(10,841)	(1,854)	(12,695)	(95,477)	(2,906)	(98,383)	(164,535)	(2,906)	(167,441)	(252,555)	(2,906)	(255,461)	#####
	Accounts Receivable																			
6.	Gas	182,433	142,435	136,100	133,166		133,166	129,686		129,686	126,572		126,572	122,911		122,911	119,664		119,664	#####
7.	Other	1,250	2,046	1,500	1,525		1,525	1,550		1,550	1,575		1,575	1,600		1,600	1,625		1,625	#####
8.	Accrued Gas Revenues	5,199	3,368	5,041	5,356		5,356	5,460		5,460	5,543		5,543	5,662		5,662	5,771		5,771	#####
9.	Reserve for Uncollectible	(102,029)	(74,286)	(71,890)	(70,484)		(70,484)	(68,605)		(68,605)	(67,813)		(67,813)	(66,338)		(66,338)	(64,880)		(64,880)	#####
#####	Total Accounts Receivable.	86,853	73,563	70,751	69,565		69,565	67,691		67,691	65,877		65,877	63,835		63,835	62,180		62,180	#####
#####	Materials & Supplies	50,908	47,891	47,005	49,220		49,220	50,734		50,734	52,002		52,002	53,509		53,509	54,872		54,872	#####
#####	Other Current Assets	460	1,642	455	459		459	463		463	467		467	471		471	475		475	#####
#####	Deferred Debits	13,135	29,376	4,782	4,987		4,987	4,469		4,469	4,464		4,464	4,348		4,348	4,311		4,311	#####
#####	Unamortized Bond Issuance Expense	3,473	512	393	341		341	303		303	270		270	241		241	215		215	#####
#####	Unamortized Loss on Reacquired Debt	30,953	53,946	47,865	42,199		42,199	36,899		36,899	32,005		32,005	27,515		27,515	23,443		23,443	#####
#####	Deferred Environmental	29,609	28,425	26,767	28,767		28,787	26,722		26,722	25,026		25,026	24,099		24,099	23,102		23,102	#####
#####	Deferred Pension Outflows	78,129	88,043	41,908	13,952		13,952	-		-	-		-	-		-	-		-	#####
#####	Other Assets	35,503	24,357	39,720	40,604		40,604	42,007		42,007	43,378		43,378	44,799		44,799	46,218		46,216	#####
#####	**TOTAL ASSETS**	1,771,681	1,813,563	1,977,455	1,895,280	365	1,895,645	1,823,564	480	1,824,044	1,917,448	595	1,918,043	1,848,932	595	1,849,527	1,762,182	595	1,762,777	#####
	EQUITY & LIABILITIES																			
#####	City Equity	277,984	288,038	30,427	40,931	365	41,296	60,265	480	60,745	74,378	595	74,973	102,747	595	103,342	133,957	595	134,552	#####
#####	Revenue Bonds	915,175	837,830	1,073,041	1,021,208		1,021,208	973,460		973,460	1,090,557		1,090,557	1,046,473		1,046,473	988,724		988,724	#####
	TECA Accretions	-																		
#####	Unamortized Discount	(787)	(110)	(875)	(825)		(825)	(776)		(776)	(732)		(732)	(686)		(686)	(641)		(641)	#####
#####	Unamortized Premium	43,360	88,703	78,667	69,303		69,303	60,595		60,595	52,623		52,623	45,389		45,389	38,938		38,936	#####
#####	Long Term Debt	957,748	926,423	1,150,833	1,089,686		1,089,686	1,033,277		1,033,277	1,142,448		1,142,448	1,091,176		1,091,176	1,027,021		1,027,021	#####
#####	Notes Payable	30,000	71,000	-	-		-	-		-	-		-	-		-	-		-	#####
#####	Accounts Payable	58,027	55,870	58,084	57,221		57,221	57,434		57,434	56,011		56,011	56,216		56,216	56,144		56,144	#####
#####	Customer Deposits	2,858	3,308	3,000	2,870		2,870	2,747		2,747	2,630		2,630	2,519		2,519	2,413		2,413	#####
#####	Other Current Liabilities	6,195	7,792	4,930	4,932		4,932	4,936		4,936	4,941		4,941	4,946		4,946	4,922		4,922	#####
#####	Pension Liability	239,869	296,093	291,253	285,870		285,870	280,051		280,051	274,416		274,416	267,534		267,534	260,380		260,380	#####
#####	Deferred Credits	7,895	5,999	2,091	4,497		4,497	2,791		2,791	2,018		2,016	2,084		2,084	2,080		2,080	#####
#####	Deferred Pension Inflows	11,853	-	-	-		-	2,813		2,813	11,120		11,120	12,290		12,290	12,302		12,302	#####
#####	Accrued Interest	6,709	2,808	15,564	14,839		14,839	14,117		14,117	17,903		17,903	17,129		17,129	16,303		16,303	#####
#####	Accrued Taxes & Wages	3,342	3,609	5,975	4,100		4,100	4,631		4,631	5,170		5,170	5,696		5,696	6,228		6,228	#####
#####	Accrued Distribution to City	3,000	3,000	3,000	3,000		3,000	3,000		3,000	3,000		3,000	3,000		3,000	3,000		3,000	#####
#####	Other Liabilities	168,400	149,523	414,298	387,334		387,334	357,502		357,502	323,413		323,413	283,595		283,595	237,432		237,432	#####
#####	**TOTAL EQUITY & LIABILITIES**	1,771,681	1,813,563	1,977,455	1,895,280	365	1,895,645	1,823,564	480	1,824,044	1,917,448	595	1,918,043	1,848,932	595	1,849,527	1,762,182	595	1,762,777	#####
	CAPITALIZATION																			
#####	Total Capitalization	1,235,732	1,214,461	1,181,260	1,130,617	365	1,130,982	1,093,542	480	1,094,022	1,218,826	595	1,217,421	1,193,923	595	1,194,518	1,160,978	595	1,161,573	#####
#####	Total Long Term Debt	957,748	926,423	1,150,833	1,089,686		1,089,686	1,033,277		1,033,277	1,142,448		1,142,448	1,091,176		1,091,176	1,027,021		1,027,021	#####
#####	Debt to Equity Ratio	77 50%	76 28%	97.42%	96 38%	-0 03%	96.35%	94.49%	-0 04%	94.45%	93 89%	-0.05%	93.84%	91 39%	-0.05%	91.35%	88.46%	-0 05%	88.42%	#####
#####	Capitalization Ratio	3.45	3.22	37.82	26.62	(0 24)	26 39	17.15	(0 14)	17.01	15.38	(0 12)	15 24	10 62	(0 06)	10.56	7 67	(0 05)	7 63	#####

Exhibit JFG-2-A

PHILADELPHIA GAS WORKS
STATEMENT OF INCOME
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	30-YR HDD FTY 2016-17	10-YR HDD FPFTY 2017-18	ADJUST	REVISED 10-YR HDD FPFTY 2017-18	10-YR HDD FORECAST 2018-19	ADJUST	REVISED 10-YR HDD FORECAST 2018-19	10-YR HDD FORECAST 2019-20	ADJUST	REVISED 10-YR HDD FORECAST 2019-20	10-YR HDD FORECAST 2020-21	ADJUST	REVISED 10-YR HDD FORECAST 2020-21	10-YR HDD FORECAST 2021-22	ADJUST	REVISED 10-YR HDD FORECAST 2021-22	LINE NO.
	OPERATING REVENUES																			
1.	Non-Heating	$ 30,753	$ 21,873	$ 26,425	$ 26,230	$ -	$ 26,230	$ 25,378	$ -	$ 25,378	$ 24,494	$ -	$ 24,494	$ 23,651	$ -	$ 23,651	$ 22,873	$ -	$ 22,873	1.
2	Gas Transport Service	39,962	38,550	45,674	44,614	-	44,614	46,222	-	46,222	47,594	-	47,594	48,653	-	48,853	50,055	-	50,055	2.
3	Heating	618,164	472,275	524,234	534,832	-	534,832	543,666	-	543,666	552,484	-	552,484	561,520	-	561,520	571,396	-	571,396	3
4	Revenue Enhancement / Cost Reduction	-	-	-	70,000	-	70,000	70,000	-	70,000	70,000	-	70,000	70,000	-	70,000	70,000	-	.70,000	4
4-A	Health Escrow Fund Surcharge	-	-	-	-	1,167	1,167		1,167	1,167		1,167	1,167		-	-		-		4-A
5	Weather Normalization Adjustment	(10,747)	41,479	5,905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
6	Unbilled Adjustment	(2,105)	(1,830)	1,673	315	-	315	104	-	104	83	-	83	119	-	119	109	-	109	6
7.	Total Gas Revenues	676,027	572,347	603,911	675,991	1,167	677,158	685,370	1,167	686,537	694,655	1,167	695,822	704,143	-	704,143	714,433	-	714,433	7.
8.	Appliance Repair & Other Revenues	8,727	7,962	8,182	8,265	-	8,265	8,347	-	8,347	8,431	-	8,431	8,515	-	8,515	8,601	-	8,601	8
9	Other Operating Revenues	12,493	10,928	13,023	12,757	-	12,757	12,903	-	12,903	13,044	-	13,044	13,186	-	13,186	13,339	-	13,339	9
10	Total Other Operating Revenues	21,220	18,890	21,205	21,022	-	21,022	21,250	-	21,250	21,475	-	21,475	21,701	-	21,701	21,940	-	21,940	10.
11.	Total Operating Revenues	697,247	591,237	625,116	697,013	1,167	698,180	706,620	1,167	707,787	716,130	1,167	717,297	725,844	-	725,844	736,373	-	736,373	11.
	OPERATING EXPENSES																			
12	Natural Gas	252,158	146,515	176,731	184,960		184,960	191,471		191,471	197,808		197,808	204,518		204,518	211,904		211,904	12.
13	Other Raw Material	11	9	10	10		10	10		10	10		10	10		10	10		10	13
14	Sub-Total Fuel	252,169	146,524	176,741	184,970	-	184,970	191,481	-	191,481	197,818	-	197,818	204,528	-	204,528	211,914	-	211,914	14
15.	CONTRIBUTION MARGINS	445,078	444,713	448,375	512,043	1,167	513,210	515,139	1,167	516,306	518,312	1,167	519,479	521,316	-	521,316	524,459	-	524,459	15
16.	Gas Processing	18,180	17,948	17,666	17,521	-	17,521	17,837	-	17,837	18,216	-	18,216	18,457	-	18,457	18,857	-	18,857	16
17.	Field Services	36,874	36,276	39,369	40,340	-	40,340	41,299	-	41,299	42,096	-	42,096	42,611	-	42,611	43,456	-	43,456	17.
18	Distribution	38,629	37,173	41,690	42,562	-	42,562	43,528	-	43,528	44,358	-	44,358	44,925	-	44,925	45,824	-	45,824	18
19	Collection	3,457	3,341	4,354	4,420	-	4,420	4,519	-	4,519	4,609	-	4,609	4,651	-	4,651	4,695	-	4,695	19
20.	Customer Service	12,262	12,432	13,503	13,807	-	13,807	14,126	-	14,126	14,406	-	14,408	14,627	-	14,627	14,919	-	14,919	20.
21.	Account Management	7,735	7,571	8,399	8,487	-	8,487	8,671	-	8,671	8,844	-	8,844	8,977	-	8,977	9,157	-	9,157	21.
22.	Bad Debt Expense	34,833	27,133	30,654	30,073		30,073	30,784		30,784	31,524		31,524	31,984	-	31,984	31,967	-	31,967	22.
23.	Marketing	6,956	3,671	4,355	4,439	-	4,439	4,538	-	4,538	4,625	-	4,625	4,694	-	4,694	4,785	-	4,785	23.
24.	Administrative & General	60,253	67,139	69,025	66,334	(365)	65,969	66,160	(115)	66,045	67,162	(115)	67,047	67,518	-	67,518	68,595	-	68,595	24.
25.	Health Insurance	51,051	53,370	58,305	30,811	-	30,811	33,641	-	33,641	36,627	-	36,627	39,880	-	39,880	43,424	-	43,424	25.
26.	Environmental	-	-	-	-	-	-	2,045	-	2,045	1,696	-	1,696	927	-	927	997	-	997	26.
27.	Capitalized Fringe Benefits	(8,860)	(10,077)	(11,537)	(11,620)	-	(11,620)	(12,238)	-	(12,238)	(12,937)	-	(12,937)	(13,744)	-	(13,744)	(14,613)	-	(14,613)	27.
	Amortization of Restructuring Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	Pensions	43,748	62,336	65,022	51,800	-	51,800	40,308	-	40,308	39,678	-	39,678	22,691	-	22,691	20,383	-	20,383	29.
30.	Taxes	7,823	7,521	8,232	8,437	-	8,437	8,647	-	8,647	8,821	-	8,821	8,997	-	8,997	9,177	-	9,177	30.
	BT Building Consolidation - Cost / (Savings)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32.	Cost / Labor Savings	-	-	(2,073)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.
33	Sub-Total Other Operating & Maintenance	310,570	324,985	337,805	325,494	(365)	325,129	319,790	(115)	319,675	324,341	(115)	324,226	309,208	-	309,208	309,727	-	309,727	33.
34.	Depreciation	46,474	47,894	48,842	50,596	-	50,596	52,436	-	52,436	54,244	-	54,244	56,019	-	56,019	57,827	-	57,827	34.
35.	Cost of Removal	2,897	3,785	4,100	4,100	-	4,100	4,100	-	4,100	4,100	-	4,100	4,100	-	4,100	4,100	-	4,100	35.
36.	To Clearing Accounts	(5,584)	(6,231)	(6,771)	(7,516)	-	(7,516)	(7,562)	-	(7,562)	(7,579)	-	(7,579)	(7,219)	-	(7,219)	(7,186)	-	(7,186)	36.
37.	Net Depreciation	43,787	45,448	46,171	47,180	-	47,180	48,974	-	48,974	50,765	-	50,765	52,900	-	52,900	54,741	-	54,741	37.
38.	Sub-Total Other Operating Expenses	354,357	370,433	383,976	372,674	(365)	372,309	368,764	(115)	368,649	375,106	(115)	374,991	362,108	-	362,108	364,468	-	364,468	38.
39.	TOTAL OPERATING EXPENSES	606,526	516,957	560,717	557,644	(365)	557,279	560,245	(115)	560,130	572,924	(115)	572,809	566,636	-	566,636	576,382	-	576,382	39.
40	OPERATING INCOME	90,721	74,280	64,399	139,369	1,532	140,901	146,375	1,282	147,657	143,206	1,282	144,488	159,208	-	159,208	159,991	-	159,991	40.
41.	Interest Gain / (Loss) and Other Income	3,784	1,393	2,898	3,031	-	3,031	2,684	-	2,684	2,879	-	2,879	3,291	-	3,291	2,890	-	2,890	41.
42	INCOME BEFORE INTEREST	94,505	75,673	67,297	142,400	1,532	143,932	149,059	1,282	150,341	146,085	1,282	147,367	162,499	-	162,499	162,881	-	162,881	42.
	INTEREST																			
43	Long-Term Debt	45,756	40,295	44,834	49,160	-	49,160	46,807	-	46,807	48,738	-	48,738	50,601	-	50,601	47,766	-	47,766	43.
44	Other	7,448	3,966	(4,059)	(6,893)	-	(6,893)	(6,252)	-	(6,252)	(5,519)	-	(5,519)	(4,784)	-	(4,784)	(4,004)	-	(4,004)	44
45.	AFUDC	(781)	(1,120)	(1,136)	(920)	-	(920)	(985)	-	(985)	(964)	-	(964)	(997)	-	(997)	(1,030)	-	(1,030)	45.
46	Loss From Extinguishment of Debt	4,100	4,478	6,081	5,666	-	5,666	5,300	-	5,300	4,694	-	4,694	4,490	-	4,490	4,072	-	4,072	46
47.	Total Interest	56,523	47,619	45,720	47,013	-	47,013	44,870	-	44,870	47,149	-	47,149	49,310	-	49,310	46,804	-	46,804	47.
48.	NET INCOME	37,982	28,054	21,577	95,387	1,532	96,919	104,189	1,282	105,471	98,936	1,282	100,218	113,189	-	113,189	116,077	-	116,077	48
49	City Payment	18,000	18,000	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	49.
50	NET EARNINGS	$ 19,982	$ 10,054	$ 3,577	$ 77,387	$ 1,532	$ 78,919	$ 86,189	$ 1,282	$ 87,471	$ 80,936	$ 1,282	$ 82,218	$ 95,189	$ -	$ 95,189	$ 98,077	$ -	$ 98,077	50

PHILADELPHIA GAS WORKS
CASH FLOW STATEMENT
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	30-YR HDD FTY 2016-17	10-YR HDD FPFTY 2017-18	ADJUST	REVISED 10-YR HDD FPFTY 2017-18	10-YR HDD FORECAST 2018-19	ADJUST	REVISED 10-YR HDD FORECAST 2018-19	10-YR HDD FORECAST 2019-20	ADJUST	REVISED 10-YR HDD FORECAST 2019-20	10-YR HDD FORECAST 2020-21	ADJUST	REVISED 10-YR HDD FORECAST 2020-21	10-YR HDD FORECAST 2021-22	ADJUST	REVISED 10-YR HDD FORECAST 2021-22	LINE NO.
	SOURCES																			
1.	Net Income	$ 37,982	$ 28,054	$ 21,577	$ 95,387	$ 1,532	$ 96,919	$ 104,189	$ 1,282	$ 105,471	$ 98,936	$ 1,282	$ 100,218	$ 113,189	$ -	$ 113,189	$ 116,077	$ -	$ 116,077	1.
2.	Depreciation & Amortization	53,258	50,371	45,049	47,000	-	47,000	49,114	-	49,114	51,246	-	51,246	53,350	-	53,350	55,516	-	55,516	2.
3	Earnings on Restricted Funds Withdrawal/(No Withdrawal)	7,051	23	(1,663)	(1,324)	-	(1,324)	(958)	-	(958)	(1,133)	-	(1,133)	(1,224)	-	(1,224)	(1,104)	-	(1,104)	3
4	Proceeds from Bond Refunding to Pay Cost of Issuance	-		2,700	-	-	-	-	-	-	500	-	500	-	-	-	-	-	-	4
5	Increased/(Decreased) Other Assets/Liabilities	23,696	26,209	29,078	(5,274)	-	(5,274)	(18,246)	-	(18,246)	(31,091)	-	(31,091)	(46,024)	-	(46,024)	(53,725)	-	(53,725)	5.
6	Available From Operations	121,987	106,657	96,741	135,789	1,532	137,321	134,099	1,282	135,381	118,458	1,282	119,740	119,291	-	119,291	116,766	-	116,766	6
7.	Drawdown of Bond Proceeds	-	-	65,000	52,000	-	52,000	57,000	-	57,000	55,000	-	55,000	57,000	-	57,000	59,000	-	59,000	7.
8	Release of Restricted Fund Asset	6,562	6 673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
9	*Release of Bond Proceeds to Pay Temporary Financing*	-	-	71,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.
10	Temporary Financing	30,000	41,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.
11.	TOTAL SOURCES	160,549	154,330	232,741	187,789	1,532	189,321	191,099	1,282	192,381	173,458	1,282	174,740	176,291	-	176,291	175,766	-	175,766	11.
	USES																			
12.	Net Construction Expenditures	85,499	100,333	132,632	109,010	-	109,010	115,626	-	115,628	113,149	-	113,149	117,009	-	117,009	120,996	-	120,996	12
12-A	Deposit into Restricted Health Escrow Fund	-	-	-	-	1,167	1,167	-	1,167	1,167	-	1,167	1,167	-	-	-	-	-	-	12-A
13	Funded Debt Reduction	13,503	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.
14	Revenue Bonds	62,190	53,625	34,790	51,834	-	51,834	47,747	-	47,747	62,905	-	62,905	44,084	-	44,084	57,749	-	57,749	14
15.	Temporary Financing Repayment	-	-	71,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
16	Distribution of Earnings	18,000	18,000	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	18,000	-	18,000	16
	Additions To (Reductions of)					-			-			-			-			-		
17.	Non-Cash Working Capital	(27,236)	4,756	(37,738)	188	-	188	866	-	866	(3,078)	-	(3,078)	(862)	-	(862)	(76)	-	(76)	17.
18	Cash Needs	151,956	176,914	218,684	179,032	1,167	180,199	182,261	1,167	183,428	190,976	1,167	192,143	178,231	-	178,231	196,669	-	196,669	18
19	Cash Surplus (Shortfall)	8,593	(22,584)	14,057	8,757	365	9,122	8,838	115	8,953	(17,518)	115	(17,403)	(1,940)	-	(1,940)	(20,903)	-	(20,903)	19
20	TOTAL USES	160,549	154,330	232,741	187,789	1,532	189,321	191,099	1,282	192,381	173,458	1,282	174,740	176,291	-	176,291	175,766	-	175,766	20.
21.	Cash - Beginning of Period	105,734	114,327	91,743	105,800	-	105,800	114,557	365	114,922	123,395	480	123,875	105,877	595	106,472	103,937	595	104,532	21.
22.	Cash - Surplus (Shortfall)	8,593	(22,584)	14,057	8,757	365	9,122	8,838	115	8,953	(17,518)	115	(17,403)	(1,940)	-	(1,940)	(20,903)	-	(20,903)	22.
23	ENDING CASH	$ 114,327	$ 91,743	105,800	$ 114,557	$ 365	$ 114,922	$ 123,395	$ 480	$ 123,876	$ 105,877	$ 595	$ 106,472	$ 103,937	$ 595	$ 104,532	$ 83,035	$ 595	$ 83,630	23.
24.	Outstanding Commercial Paper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.
25.	Outstanding Commercial Paper - Capital	30,000	71,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
26	DSIC Revenue	13,764	26,253	32,541	30,579	-	30,579	30,895	-	30,895	31,214	-	31,214	31,518	-	31,518	31,846	-	31,846	26
27.	Internally Generated Funds	31,735	33,080	35,091	26,431	-	26,431	27,733	-	27,733	26,935	-	26,935	28,491	-	28,491	30,150	-	30,150	27.
28.	TOTAL IGF + Incremental DSIC Revenue	45,499	59,333	67,632	57,010	-	57,010	58,628	-	58,628	58,149	-	58,149	60,009	-	60,009	61,996	-	61,996	28

PHILADELPHIA GAS WORKS
DEBT SERVICE COVERAGE
(Dollars in Thousands)

LINE NO.		ACTUAL 2014-15	HTY 2015-16	30-YR HDD FTY 2016-17	10-YR HDD FPFTY 2017-18	ADJUST	REVISED 10-YR HDD FPFTY 2017-18	10-YR HDD FORECAST 2018-19	ADJUST	REVISED 10-YR HDD FORECAST 2018-19	10-YR HDD FORECAST 2019-20	ADJUST	REVISED 10-YR HDD FORECAST 2019-20	10-YR HDD FORECAST 2020-21	ADJUST	REVISED 10-YR HDD FORECAST 2020-21	10-YR HDD FORECAST 2021-22	ADJUST	REVISED 10-YR HDD FORECAST 2021-22	LINE NO.
	FUNDS PROVIDED																			
1.	Total Gas Revenues	$ 576,027	$ 572,347	$ 603,911	$ 675,991	$ 1,167	$ 677,158	$ 685,370	$1,167	$ 686,537	$ 694,655	$1,167	$ 695,822	$ 704,143	$ -	$ 704,143	$ 714 433	$ -	$ 714,433	1.
2	Other Operating Revenues	21,220	18 890	21,205	21 022	-	21,022	21,250	-	21,250	21,475	-	21,475	21,701	-	21,701	21,940	-	21,940	2.
3.	Total Operating Revenues	597,247	591,237	625,116	697,013	1,167	698,180	706,620	1,167	707,787	716,130	1,167	717,297	725,844	-	725,844	736,373	-	736,373	3
4.	Other Income Incr. / (Decr.) Restricted Funds	10,835	1,416	1,235	1,707	-	1,707	1,726	-	1,726	1,746	-	1,746	2,067	-	2,067	1,786	-	1,786	4.
5	City Grant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
6	AFUDC (Interest)	781	1,120	1,136	920	-	920	985	-	985	964	-	964	997	-	997	1,030	-	1,030	6
7.	TOTAL FUNDS PROVIDED	708,863	593,773	627,487	699,640	1,167	700,807	709,331	1,167	710,498	718,840	1,167	720,007	728,908	-	728,908	739,189	-	739,189	7.
	FUNDS APPLIED																			
8.	Fuel Costs	252,169	146,524	176,741	184,970	-	184,970	191,481	-	191,481	197,818	-	197,818	204,528	-	204,528	211,914	-	211,914	8.
9	Other Operating Costs	354,357	370,433	383,976	372,674	(365)	372,309	368,764	(115)	368,649	375,106	(115)	374,991	362,108	-	362,108	364,468	-	364,468	9.
10.	Total Operating Expenses	606,526	516,957	560,717	557,644	(365)	557,279	560,245	(115)	560,130	572,924	(115)	572,809	566,636	-	566,636	576,382	-	576,382	10.
11.	Less Non-Cash Expenses	74,535	89,059	92,630	78,214	1,971	80,185	68,483	1,554	70,017	69,770	1,141	70,911	55,503	613	56,116	55 924	97	56,021	11.
12.	TOTAL FUNDS APPLIED	531,991	427 898	468,087	479,430	(2,336)	477,094	491,762	(1,669)	490,113	503,154	(1,256)	501,898	511,133	(613)	510,520	520,458	(97)	520,361	12.
13	Funds Available to Cover Debt Service	176,872	165,875	159,400	220,210	3,503	223,713	217,549	2,836	220,385	215,686	2,423	218,109	217,775	613	218,388	218,731	97	218,828	13
14	1975 Ordinance Bonds Debt Service	26,904	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
15.	Debt Service Coverage 1975 Bonds	6.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.
16	Net Available after Prior Debt Service	149,968	165,875	159,400	220,210	3,503	223,713	217,549	2,836	220,385	215,686	2,423	218,109	217,775	613	218,388	218,731	97	218,828	16
17.	Equipment Leasing Debt Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.
18	Net Available after Prior Capital Leases	149,968	165,875	159,400	220,210	3,503	223,713	217,549	2,836	220,385	215,686	2,423	218,109	217,775	613	218,388	218,731	97	218,828	18.
19	1998 Ordinance Bonds Debt Service	70,139	77,867	66,868	101,720	-	101,720	95,276	-	95,276	97,858	-	97,858	95 459	-	95,459	106,342	-	106,342	19
20	1995 Ordinance Subordinate Bonds Debt Service - (TXCP)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
21.	Total 1998 Ordinance Debt Service	70,139	77,867	66,868	101,720	-	101,720	95,276	-	95,276	97,858	-	97,858	95,459	-	95,459	106,342	-	106,342	21.
22.	**Debt Service Coverage 1998 Bonds**	**2.14**	**2.13**	**2.34**	**2.16**	**0.03**	**2.20**	**2.28**	**0.03**	**2.31**	**2.20**	**0.02**	**2.23**	**2.28**	**0.01**	**2.29**	**2.06**	**0.00**	**2.06**	22
23.	Net Available after 1998 Debt Service	79,829	88,008	92,532	118,490	3 503	121,993	122,273	2,836	125,109	117,828	2,423	120,251	122,316	613	122,929	112,389	97	112,486	23
24.	Aggregate Debt Service	97,043	77,867	66,868	101,720	-	101,720	95,276	-	95,276	97,858	-	97,858	95,459	-	95,459	106,342	-	106,342	24.
25.	Debt Service Coverage (Combined liens)	1.82	2.13	2.38	2.16	0.03	2.20	2 28	0 03	2.31	2.20	0.02	2.23	2.28	0 01	2.29	2.06	0 00	2.06	25
26	Debt Service Coverage (Combined liens with $18.0 City Fee	**1.64**	**1.90**	**2.11**	**1.99**	**0.03**	**2.02**	**2.09**	**0.03**	**2.12**	**2.02**	**0.02**	**2.04**	**2.09**	**0.01**	**2.10**	**1.89**	**0.00**	**1.89**	26

PHILADELPHIA GAS WORKS
BALANCE SHEET
(Dollars in Thousands)

LINE NO.		ACTUAL 8/31/15	HTY 8/31/16	30-YR HDD FTY 8/31/17	10-YR HDD FPFTY 8/31/18	ADJUST	REVISED 10-YR HDD FPFTY 8/31/18	10-YR HDD FORECAST 8/31/19	ADJUST
	ASSETS								
1.	Utility Plant Net	1,232,370	1,264,810	1,388,600	1,427,014		1,427,014	1,490,206	
2.	Sinking Fund Reserve	90,141	86,652	105,196	106,253		106,253	107,320	
	Capital Expenditures	-	-	-					
	Workers' Compensation Fund								
4	& Health Insurance Escrow	5,620	2,603	2,610	2,616	1,167	3,783	2,629	2,334
5.	Cash	114,327	91,743	105,800	114,557	365	114,922	123,395	480
	Accounts Receivable,								
6.	Gas	162,433	142,435	136,100	132,838		132,838	128,969	
7.	Other	1,250	2,046	1,600	1,525		1,525	1,550	
8.	Accrued Gas Revenues	5,199	3,368	5,041	5,356		5,356	5,460	
9	Reserve for Uncollectible	(102,029)	(74,286)	(71,890)	(70,389)		(70,389)	(68,586)	
10.	Total Accounts Receivable.	66,853	73,563	70,751	69,330		69,330	67,393	
11.	Materials & Supplies	50,908	47,891	47,005	49,220		49,220	50,734	
12	Other Current Assets	480	1,642	455	459		459	463	
13	Deferred Debits	13,135	29,376	4,782	4,987		4,987	4,489	
14	Unamortized Bond Issuance Expense	3,473	512	393	341		341	303	
15.	Unamortized Loss on Reacquired Debt	30,953	53,946	47,685	42,199		42,199	36,899	
16.	Deferred Environmental	29,609	28,425	28,767	28,767		28,767	26,722	
17.	Deferred Pension Outflows	78,129	58,043	41,906	13,952		13,952	-	
18.	Other Assets	35,503	24,357	39,720	40,604		40,604	42,007	
19	TOTAL ASSETS	1,771,681	1,813,563	1,977,455	1,962,163	1,532	1,963,695	1,957,302	2,814
	EQUITY & LIABILITIES								
20	City Equity	277,984	288,038	30,427	107,814	1,532	109,346	194,003	2,814
21.	Revenue Bonds	915,175	837,830	1,073,041	1,021,208		1,021,208	973,460	
	TECA Accretions	-							
22.	Unamortized Discount	(787)	(110)	(875)	(625)		(625)	(778)	
23	Unamortized Premium	43,360	88,703	78,667	69,303		69,303	60,595	
24	Long Term Debt	957,748	926,423	1,150,833	1,089,686		1,089,686	1,033,277	
	City Loan	-	-	-					
26	Accounts Payable	58,027	55,870	58,084	57,221		57,221	57,434	
27.	Customer Deposits	2,858	3,308	3,000	2,870		2,870	2,747	
28.	Other Current Liabilities	6,196	7,792	4,930	4,932		4,932	4,936	
29	Pension Liability	239,869	298,093	291,253	285,870		285,870	280,051	
30	Deferred Credits	7,895	5,999	2,091	4,497		4,497	2,791	
31.	Deferred Pension Inflows	11,653	-	-	-		-	2,813	
32	Accrued Interest	6,709	2,606	15,564	14,839		14,839	14,117	
33	Accrued Taxes & Wages	3,342	3,609	5,976	4,100		4,100	4,631	
34.	Accrued Distribution to City	3,000	3,000	3,000	3,000		3,000	3,000	
35	Other Liabilities	168,400	149,623	414,298	387,334		387,334	357,502	
36.	TOTAL EQUITY & LIABILITIES	1,771,681	1,813,563	1,977,455	1,962,163	1,532	1,963,695	1,957,302	2,814
	CAPITALIZATION								
37.	Total Capitalization	1,235,732	1,214,461	1,181,260	1,197,500	1,532	1,199,032	1,227,280	2,814
38	Total Long Term Debt	957,748	926,423	1,150,833	1,089,686		1,089,686	1,033,277	
39	Debt to Equity Ratio	77.50%	76.28%	97.42%	91.00%	-0.12%	90.88%	84.19%	-0.19%
40	Capitalization Ratio	3.45	3.22	37.82	10.11	(0.14)	9.97	5.33	(0.05)

LINE NO.		REVISED 10-YR HDD FORECAST 8/31/19	10-YR HDD FORECAST 8/31/20	ADJUST	REVISED 10-YR HDD FORECAST 8/31/20	10-YR HDD FORECAST 8/31/21	ADJUST	REVISED 10-YR HDD FORECAST 8/31/21	10-YR HDD FORECAST 8/31/22	ADJUST	REVISED 10-YR HDD FORECAST 8/31/22	LINE NO.
	ASSETS											
1.	Utility Plant Net	1,490,206	1,549,111		1,549,111	1,610,101		1,610,101	1,673,270		1,673,270	1.
2.	Sinking Fund Reserve	107,320	120,248		120,248	121,456		121,456	122,676		122,676	2.
	Capital Expenditures											
	Workers' Compensation Fund											
4	& Health Insurance Escrow	4,963	2,642	3,501	6,143	2,662	3,501	6,163	2,682	3,501	6,183	4
5.	Cash	123,875	105,877	595	106,472	103,937	595	104,532	83,035	595	83,630	5
	Accounts Receivable,											
6.	Gas	128,969	125,516		125,516	121,461		121,461	117,870		117,870	6.
7.	Other	1,550	1,575		1,575	1,600		1,600	1,625		1,625	7.
8.	Accrued Gas Revenues	5,460	5,543		5,543	5,682		5,682	5,771		5,771	8
9	Reserve for Uncollectible	(68,586)	(67,550)		(67,550)	(65,979)		(65,979)	(64,428)		(64,428)	9
10.	Total Accounts Receivable.	67,393	65,084		65,084	62,744		62,744	60,838		60,838	10
11.	Materials & Supplies	50,734	52,002		52,002	53,509		53,509	54,872		54,872	11.
12	Other Current Assets	463	467		467	471		471	475		475	12.
13	Deferred Debits	4,489	4,464		4,464	4,348		4,348	4,311		4,311	13
14	Unamortized Bond Issuance Expense	303	270		270	241		241	215		215	14.
15.	Unamortized Loss on Reacquired Debt	36,899	32,005		32,005	27,515		27,515	23,443		23,443	15.
16.	Deferred Environmental	26,722	25,026		25,026	24,099		24,099	23,102		23,102	16
17.	Deferred Pension Outflows	-	-		-	-		-	-		-	17.
18.	Other Assets	42,007	43,378		43,378	44,799		44,799	46,216		46,216	18.
19	TOTAL ASSETS	1,960,116	2,118,009	4,096	2,122,105	2,116,313	4,096	2,120,409	2,096,430	4,096	2,100,526	19
	EQUITY & LIABILITIES											
20	City Equity	196,817	274,938	4,096	279,035	370,128	4,096	374,224	468,205	4,096	472,301	20
21.	Revenue Bonds	973,460	1,090,557		1,090,557	1,046,473		1,046,473	988,724		988,724	21.
	TECA Accretions											
22.	Unamortized Discount	(778)	(732)		(732)	(686)		(686)	(641)		(641)	22.
23	Unamortized Premium	60,595	52,623		52,623	45,389		45,389	38,938		38,938	23.
24	Long Term Debt	1,033,277	1,142,448		1,142,448	1,091,176		1,091,176	1,027,021		1,027,021	24
	City Loan											
26	Accounts Payable	57,434	58,011		58,011	58,216		58,216	56,144		56,144	26
27.	Customer Deposits	2,747	2,630		2,630	2,519		2,519	2,413		2,413	27.
28.	Other Current Liabilities	4,936	4,941		4,941	4,946		4,946	4,922		4,922	28.
29	Pension Liability	280,051	274,416		274,416	267,534		267,534	260,380		260,380	29.
30	Deferred Credits	2,791	2,018		2,018	2,084		2,084	2,080		2,080	30.
31.	Deferred Pension Inflows	2,813	11,120		11,120	12,290		12,290	12,302		12,302	31.
32	Accrued Interest	14,117	17,903		17,903	17,129		17,129	16,303		16,303	32.
33	Accrued Taxes & Wages	4,631	5,170		5,170	5,696		5,696	6,228		6,228	33.
34.	Accrued Distribution to City	3,000	3,000		3,000	3,000		3,000	3,000		3,000	34
35	Other Liabilities	357,502	323,413		323,413	283,595		283,595	237,432		237,432	35.
36.	TOTAL EQUITY & LIABILITIES	1,960,116	2,118,009	4,096	2,122,105	2,116,313	4,096	2,120,409	2,096,430	4,096	2,100,526	36.
	CAPITALIZATION											
37.	Total Capitalization	1,230,094	1,417,387	4,096	1,421,483	1,461,304	4,096	1,465,400	1,495,226	4,096	1,499,322	37.
38	Total Long Term Debt	1,033,277	1,142,448		1,142,448	1,091,176		1,091,176	1,027,021		1,027,021	38
39	Debt to Equity Ratio	84.00%	80.60%	-0.23%	80.37%	74.67%	-0.21%	74.46%	68.68%	-0.19%	68.50%	39.
40	Capitalization Ratio	5.25	4.16	(0.08)	4.09	2.95	(0.03)	2.92	2.19	(0.02)	2.17	40

Exhibit JFG-4

PHILADELPHIA GAS WORKS
10-YR AVG. HEATING DEGREE DAYS & $34.0 MILLION BASE RATE INCREASE

	FTY 8/31/17	FPFTY 8/31/18	FORECAST 8/31/19	FORECAST 8/31/20	FORECAST 8/31/21	FORECAST 8/31/22
City Equity	30,427	73,417	125,223	171,792	232,616	296,304
Revenue Bonds	1,073,041	1,021,208	973,460	1,090,557	1,046,473	988,724
Unamortized Discount	(875)	(825)	(778)	(732)	(686)	(641)
Unamortized Premium	78,667	69,303	60,595	52,623	45,389	38,938
Long Term Debt	1,150,833	1,089,686	1,033,277	1,142,448	1,091,176	1,027,021
Total Capitalization	1,181,260	1,163,103	1,158,500	1,314,240	1,323,792	1,323,325
Total Long Term Debt	1,150,833	1,089,686	1,033,277	1,142,448	1,091,176	1,027,021
Debt to Equity Ratio	97.42%	93.69%	89.19%	86.93%	82.43%	77.61%

ADDITIONAL $75.0M NEW MONEY ISSUANCE

	FTY 8/31/17	FPFTY 8/31/18	FORECAST 8/31/19	FORECAST 8/31/20	FORECAST 8/31/21	FORECAST 8/31/22
City Equity	30,427	69,717	121,523	168,092	228,916	292,604
Revenue Bonds	1,073,041	1,021,208	973,460	1,090,557	1,046,473	988,724
Revenue Bonds - $75M Issuance	75,000	73,900	72,700	71,500	70,200	68,800
Unamortized Discount	(875)	(825)	(778)	(732)	(686)	(641)
Unamortized Premium	78,667	69,303	60,595	52,623	45,389	38,938
Long Term Debt	1,225,833	1,163,586	1,105,977	1,213,948	1,161,376	1,095,821
Total Capitalization	1,256,260	1,233,303	1,227,500	1,382,040	1,390,292	1,388,425
Total Long Term Debt	1,225,833	1,163,586	1,105,977	1,213,948	1,161,376	1,095,821
Debt to Equity Ratio	97.58%	94.35%	90.10%	87.84%	83.53%	78.93%
Increase/(Decrease) D/E Ratio	0.15%	0.66%	0.91%	0.91%	1.11%	1.32%

Exhibit JFG-5

Information Services (IS) Methodology

PGW uses an Information Service Allocation Budget Model to transfer the cost responsibility for desktop computers, printers, phones, and other information services expenses (devices) to each cost center within the organization. The responsibility for operating costs of the Information Service Department is transferred to each cost center based upon the number of devices, software applications, and labor hours assigned to a specific cost center. The process for the budget allocation is as follows:

- At the beginning of each calendar year, Finance will formally request Information Services to:
    - Provide a list of devices, software applications, and personnel currently allocated to each cost center;
    - Provide a list of devices and software applications PGW intends to add to its existing enterprise system;
    - Identify the related cost center for new devices and software applications; and
    - Provide estimated costs by expenditure type for the projected period, including personnel levels, purchase services, maintenance contractors, maintenance software, etc.
- To determine the allocation budget per cost center the following factors have to be considered: total number of PCs, laptops & printers and the Estimated Actual Direct Department Allocations Summary.

The Estimated Actual Direct Department Allocations summary is devised to determine department's cost. This accounts for the total equipment leases, purchased services, maintenance of software and office equipment and labor.

To determine department allocation begin by:

- Determine the Allocation (PCs, laptops, and printers) by percentage allocation, which is based on department estimate;
- Determine the Actual Allocated Amount is based on the Estimated Actual Direct Department Allocations summary;
- Determine the Default Allocation by multiplying total number of equipment by the unit cost;
- IS allocation is derived by adding the Actual and Default Allocated amounts; and
- Determine Telecom Allocation (using same methodology)

Exhibit JFG-6

Fleet Methodology

PGW uses a Fleet Allocation Budget Model to transfer the cost responsibility for vehicles, mobile equipment, street machinery, and other services (vehicles) to each cost center within the organization. The responsibility for operating costs of the Fleet Service Department is transferred to each cost center based upon vehicle utilization and assignments. The process for the budget allocation is as follows:

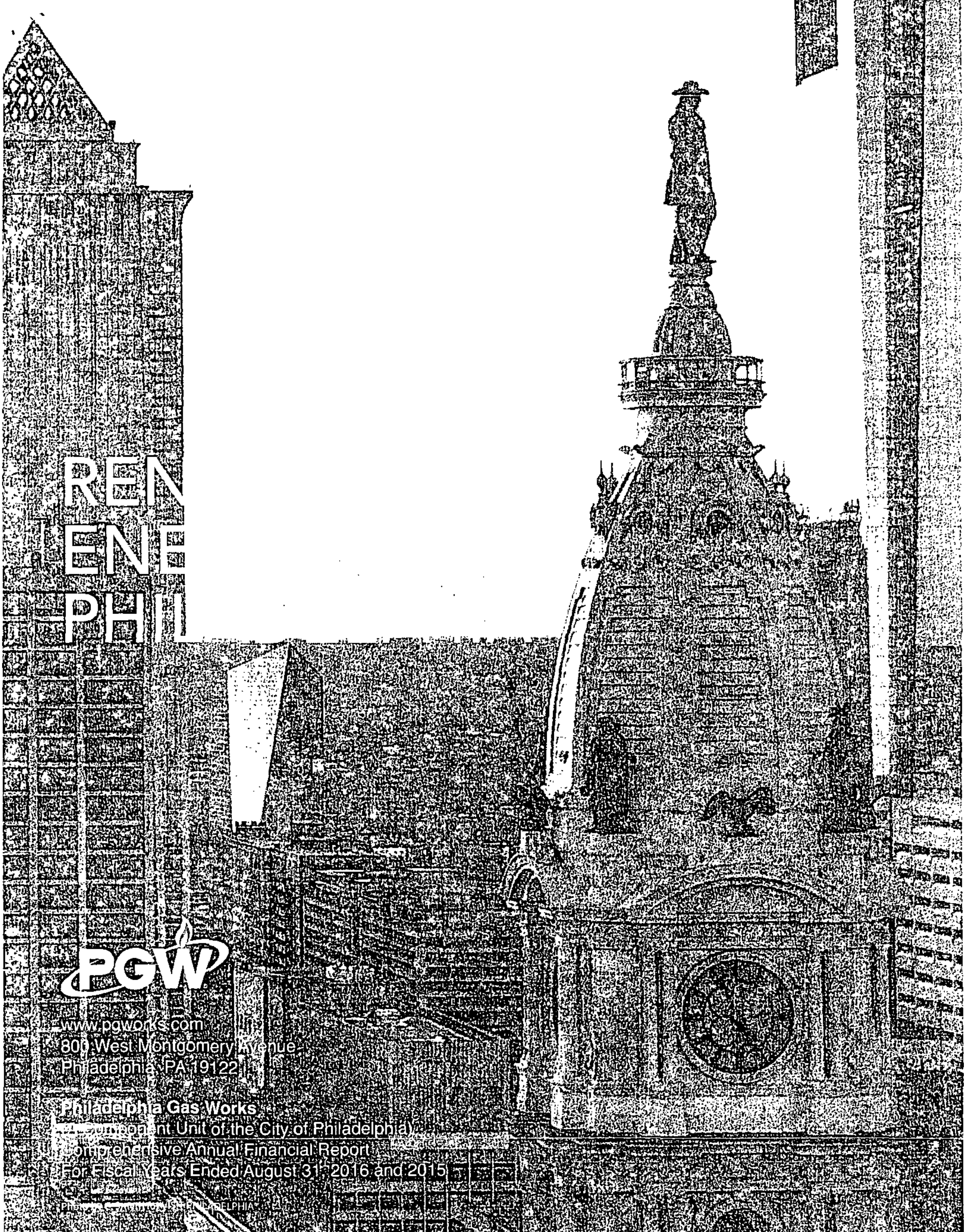
- At the beginning of each calendar year, Finance will formally request Fleet Services to:
  - Provide a list of vehicles and street machinery currently assigned to each cost center from PGW's M5 work management system;
  - Provide a list of vehicles and street machinery PGW intends to add to its existing fleet inventory;
  - Identify the related cost center for new vehicles and street machinery; and
  - Provide estimated costs by expenditure type for the projected period, including personnel levels, purchase services, maintenance contractors, etc.
- Concurrent with the aforementioned formal data requests, Finance will query daily vehicle utilization data from PGW's Vehicle Data Input System (VDIS). The data consists of daily utilized hours, by vehicle, imported from either PGW's Advanced Intelligent Mobile System (AIMS) or manually inputted from employees' timesheets. The utilization data will be used to test the reasonability and validity of the core business assumptions used in the budgeting allocation model.

Once Finance has compiled all relevant data, standard hourly rates for each vehicle class be will derived based on the projected vehicles assigned to each cost center. To determine the budgeted fleet allocation per cost center, a number of components must be considered: vehicle type, number of vehicles, annual hours utilized per vehicle, and the vehicle rate. In the case of capital projects, the allocation budget model provides for the transfer of fleet costs to capital projects. To determine the allocated cost per department you begin by:

- Developing an Operating Budget for the Fleet Service Department;
- Identify the total number of vehicles by type, by cost center, projected to be in PGW's vehicle inventory;
- Determine the average amount of hours each vehicle is utilized on an annual basis. It is important to note that passenger type vehicles, i.e. cars, are assumed to be utilized 2,080 hours per non-Leap Year or 40.0 hours per week 52 weeks per year and 2,088 hours per Leap Year;
- Determine an hourly rate per vehicle class (see Exhibit C);
- Determine the Fleet Service budget allocation or overhead expense for each cost center. This is calculated by multiplying each specific vehicle type's hourly rate by the amount of project hours the vehicle will be utilized on an annual basis in the FPFTY 2018 period (see Exhibit D).
- The FPFTY 2018 period was developed using the previously defined Fleet Service Budget Allocation process for the FTY 2017 period. In order to determine the FPFTY 2018 period, an escalation factor of 2.0% was applied to all FTY 2017 allocated costs.

Exhibit JFG-7

Exhibit JFG-7



www.pgworks.com
800 West Montgomery Avenue
Philadelphia, PA 19122

Philadelphia Gas Works
(A Component Unit of the City of Philadelphia)
Comprehensive Annual Financial Report
For Fiscal Years Ended August 31, 2016 and 2015

pipeline supplier refunds in FY 2015 as compared to $4.4 million in FY 2014 while demand charges decreased by $5.4 million, compared to FY 2014.

Variations in the cost of purchased gas are passed through to customers under the GCR provision of PGW's rate schedules. Over recoveries or under recoveries of purchased gas costs are subtracted from or added to gas revenues and are included in other current assets or other current liabilities, thereby eliminating the effect that recovery of gas costs would otherwise have on net income.

The average natural gas commodity prices for utilized gas for FY 2016, FY 2015, and FY 2014 were $2.20, $3.84, and $4.63 per Mcf, respectively.

Other Operating Expenses – Expenditures for street operations, infrastructure improvements, and plant operations in FY 2016 were $91.4 million, a $2.3 million or 2.5% decrease from the FY 2015 total of $93.7 million. The decrease in FY 2016 was mainly caused by lower labor costs associated with the Distribution department. The FY 2015 total of $93.7 million was $0.4 million lower than the FY 2014 total of $94.1 million as a result of lower labor costs associated with running the LNG plants.

Additionally, expenses of $126.7 million related to collection and account management, customer services, marketing, and the administrative area increased by $2.9 million or 2.3% in FY 2016 primarily due to higher administrative and healthcare expenses, offset by lower expenses associated with marketing. This category increased by $7.6 million or 6.5% in FY 2015 compared to FY 2014 primarily due to higher healthcare expenses, costs of customer programs, and an increase in customer services.

Pension costs increased in FY 2016 due to a number of factors including a decrease in the discount rate from 7.65% to 7.30%, and lower than anticipated earnings in FY 2016. Pension costs increased by $18.6 million or 42.6% to $62.3 million in FY 2016 as compared to FY 2015. Pension costs increased by $16.5 million or 60.7% to $43.7 million in FY 2015 as compared to FY 2014.

Other Postemployment Benefits (OPEB) costs increased $3.9 million in FY 2016 when compared to FY 2015. OPEB costs increased in FY 2016 due to increased normal costs and increased insurance expenses. OPEB costs remained the same in FY 2015 when compared to FY 2014. For FY 2016, FY 2015, and FY 2014, the Company utilized a discount rate of 7.95%. The higher OPEB Trust Fund (the Trust) balances created higher investment income and lower unfunded liabilities. These factors lowered OPEB costs.

The annual OPEB cost is recorded in the statements of revenues and expenses and changes in net position. For the year ended August 31, 2016, approximately $9.9 million was recorded to other postemployment benefits expense and $31.1 million was allocated to administrative and general expense. For the year ended August 31, 2015, approximately $6.7 million was recorded to other postemployment benefits expense and $30.3 million was allocated to administrative and general expense.

The net OPEB obligation was $81.4 million for the fiscal year ended August 31, 2016, an $8.6 million decrease from the $90.0 million obligation at August 31, 2015. The net OPEB obligation was $90.0 million for the fiscal year ended August 31, 2015, an $11.8 million decrease from the $101.8 million obligation at

(Continued)

PHILADELPHIA GAS WORKS
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Notes to Basic Financial Statements
August 31, 2016 and 2015

Defeased debt of the Company (bonds issued by the Company payable from the proceeds of irrevocably pledged assets) at August 31, 2015 was as follows (thousands of U.S. dollars):

	Latest date maturing to	Interest rate		Bonds outstanding
12th Series B	05/15/20	7.00%	$	24,735
17th Series	07/01/18	5.38		37,275
19th Series	10/01/23	5.00		14,450
Total			$	76,460

The assets pledged, primarily noncallable U.S. government securities, had a market value of $82.4 million at August 31, 2015, bearing interest on face value from 5.84% to 5.89%.

The investments held by the trustee and the defeased bonds are not recognized on the Company's balance sheets in accordance with the terms of the Indentures of Defeasance. The investments pledged for the redemption of the defeased debt have maturities and interest payments scheduled to coincide with the trustee cash requirements for debt service.

(10) Defined Benefit Pension Plan

(a) Plan Description

The Pension Plan provides pension benefits for all eligible employees of PGW and other eligible class employees of PFMC and PGC.

The Pension Plan provides for retirement payments for vested employees at age 65 or earlier under various options, which includes a disability pension provision, a preretirement spouse or domestic partner's death benefit, a reduced pension for early retirement, various reduced pension payments for the election of a survivor option, and a provision for retirement after 30 years of service without penalty for reduced age. In accordance with Resolutions of the PGC, Ordinances of City Council, and as prescribed by the City's Director of Finance, the Pension Plan is being funded with contributions by PGW to the Sinking Fund Commission of the City, which serves as the Trustee. Management believes that the Pension Plan is in compliance with all applicable laws.

(b) Benefits Provided

Normal Retirement Benefits: The Pension Plan provides retirement benefits as well as death and disability benefits. Retirement benefits vest after five years of credited service. Employees who retire at or after age 65 are entitled to receive an annual retirement benefit, payable monthly, in an amount equal to the greater of:

- 1.25% of the first $6,600 of Final Average Earnings plus 1.75% of the excess of Final Average Earnings over $6,600, times years of credited service, with a maximum of 60.0% of the highest annual earnings during the last 10 years of credited service or

- 2.0% of total earnings received during the period of credited service plus 22.5% of the first $1,200 annual amount, applicable only to participants who were employees on or prior to March 24, 1967.

Death Benefits: Before retirement, spouses of deceased active participates or of former participants are entitled to vested benefits provided such participants died after having attained age 45 and completed at least 15 years of Credited Service and whose age plus years of credited service equals at least 65 years of whom have completed at least 15 years of Credited Service regardless of age. The benefit payable is an amount for the spouse's remaining lifetime equal to the amount the beneficiary of the participant would have received had the participant retired due to a disability on the day preceding his/her death and elected the 100% contingent annuitant option.

Disability Benefits: Disability benefits are the same as the Normal Retirement Benefits and are based on Final Average Compensation and Credited Service as of the date of disability.

Final Average Earnings are the employee's average pay, over the highest five years of the last 10 years of credited service. Employees with 15 years of credited service may retire at or after age 55 and receive a reduced retirement benefit. Employees with 30 years of service may retire without penalty for reduced age.

Except as noted in the following paragraph, covered employees are not required to contribute to the Pension Plan.

In December 2011, the Pension Plan was amended by Ordinance and a new deferred compensation plan was authorized by Ordinance as well. Newly hired employees have an irrevocable option to join either a new deferred compensation plan created in accordance with Internal Revenue Code Section 401 or the existing defined-benefit plan. The defined-contribution plan provides for an employer contribution equal to 5.5% of applicable wages. The defined-benefit plan provides for a newly hired employee contribution equal to 6.0% of applicable wages. The Ordinance did not affect the retirement benefits of active employees, current retirees and beneficiaries, or terminated employees entitled to benefits but not yet receiving them.

PHILADELPHIA GAS WORKS
(A Component Unit of the City of Philadelphia)
Notes to Basic Financial Statements
August 31, 2016 and 2015

(c) Employees Covered by Benefit Terms

At June 30, 2016, the date of the most recent actuarial valuation, the Pension Plan membership consisted of:

Retirees and beneficiaries currently receiving benefits and terminated employees entitled to benefits, but not yet receiving them	2,521
Participants:	
Vested	1,036
Nonvested	215
Total participants	1,251
Total membership	3,772

During the period September 1, 2014 through June 30, 2015, PGW experienced significant changes in its workforce. During this time, there were over 180 active Pension Plan participants who moved into retirement. This activity is more than double the number of retirements experienced by PGW in a normal year.

(d) Contributions

The Pension Plan funding policy provides for periodic employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are sufficient to accumulate assets to pay benefits when due considering employee contributions required for new hires after December 2011 who elect to participate in the Pension Plan. Level percentages of payroll employer contribution rates are determined using the Projected Unit Credit actuarial funding method. For the Pension Plan years ended June 30, 2016 and 2015, PGW's average contribution rate was 29.1% and 22.6% of annual payroll, respectively. Employee contributions were approximately $0.6 million in the plan year ended June 30, 2016 and approximately $0.4 million in the plan year ended June 30, 2015. The actuarially determined contributions for FY 2016 and FY 2015 were $26.5 million and $21.5 million, respectively. PGW contributed $26.5 million and $21.5 million in its FY 2016 and FY 2015, respectively.

(e) Net Pension Liability

The Company's net pension liability as of August 31, 2016 and 2015 was measured as of June 30, 2016 and 2015, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of June 30, 2016, June 30, 2015.

The total pension liability was determined using the entry age normal actuarial method and the following actuarial assumptions:

	2016	2015
Inflation	2.00%	2.00%
Salary increases	4.50	4.50
Investment rate of return	7.30	7.65

Mortality rates. Mortality rates for FY 2015 were based on the RP-2014 mortality tables for males and females generationally projected with scale MP-2014. Mortality rates for FY 2016 were based on the RP-2014 mortality tables for males and females generationally projected with scale MP-2015.

Long-term rate of return. The long-term expected rate of return on Pension Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class for FY 2016 are summarized in the following table:

Asset class	Minimum	Maximum	Target	Expected annual return
Domestic equity	35.0%	55.0%	45.0%	9.0%
International equity	10.0	30.0	20.0	9.1
Fixed income	25.0	45.0	35.0	5.6
Cash equivalents	—	10.0	—	—
			100.0%	

(Continued)

PHILADELPHIA GAS WORKS
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Discount rate. The discount rate used to measure the total pension liability at June 30, 2016 and 2015 was 7.30% and 7.65%, respectively. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that Company contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee contributions. Based on those assumptions, the Pension Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on Pension Plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Changes in Net Pension Liability

(Thousands of U.S. dollars)

		Increase (decrease)		
		Total pension liability (a)	Plan fiduciary net position (b)	Net pension liability (a)-(b)
Balances at September 1, 2014	$	677,401	513,145	164,256
Changes for the year:				
Service cost		4,890	—	4,890
Interest		52,377	—	52,377
Differences between expected and actual experience		17,961	—	17,961
Contributions – employer		—	21,106	(21,106)
Contributions – employee		—	393	(393)
Net investment income		—	24,472	(24,472)
Benefit payments, including refunds of employee contributions		(46,917)	(46,917)	—
Administrative expenses		—	(1,480)	1,480
Change in assumptions		44,876	—	44,876
Net changes		73,187	(2,426)	75,613
Balances at August 31, 2015	$	750,588	510,719	239,869

(Continued)

PHILADELPHIA GAS WORKS
(A Component Unit of the City of Philadelphia)
Notes to Basic Financial Statements
August 31, 2016 and 2015

Changes in Net Pension Liability

(Thousands of U.S. dollars)

		Increase (decrease)		
		Total pension liability (a)	**Plan fiduciary net position (b)**	**Net pension liability (a)-(b)**
Balances at September 1, 2015	$	750,588	510,719	239,869
Changes for the year:				
Service cost		5,399	—	5,399
Interest		55,903	—	55,903
Differences between expected and actual experience		(8,840)	—	(8,840)
Contributions – employer		—	21,123	(21,123)
Contributions – employee		—	602	(602)
Net investment income		—	2,872	(2,872)
Benefit payments, including refunds of employee contributions		(50,447)	(50,447)	—
Administrative expenses		—	(1,611)	1,611
Change in assumptions		26,748		26,748
Net changes		28,763	(27,461)	56,224
Balances at August 31, 2016	$	779,351	483,258	296,093

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the Company at June 30, 2016, calculated using the discount rate of 7.30%, as well as what the Company's net pension liability as of August 31, 2016 would be if it were calculated using a discount rate that is one-percentage-point lower (6.30%) or one-percentage point higher (8.30%) than the current rate:

		1% Decrease 6.30%	**Current discount rate 7.30%**	**1% Increase 8.30%**
			(thousands of U.S. dollars)	
Net pension liability	$	387,060	296,093	220,296

(Continued)

The following presents the net pension liability of the Company at June 30, 2015, calculated using the discount rate of 7.65%, as well as what the Company's net pension liability as of August 31, 2015 would be if it were calculated using a discount rate that is one-percentage-point lower (6.65%) or one-percentage point higher (8.65%) than the current rate:

	1% Decrease 6.65%	Current discount rate 7.65%	1% Increase 8.65%
	(thousands of U.S. dollars)		
Net pension liability	$ 326,719	239,869	167,415

Pension Plan fiduciary net position. Detailed information about the Pension Plan's fiduciary net position is available in the separately issued Pension Plan financial report.

(f) Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the years ended August 31, 2016 and 2015, the Company recognized pension expense of $62.3 million and $43.7 million, respectively. At August 31, 2016 and 2015, the Company reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources (thousands of U.S. dollars):

	August 31, 2016		August 31, 2015	
	Deferred outflows of resources	Deferred inflows of resources	Deferred outflows of resources	Deferred inflows of resources
Differences between expected and actual experience	$ 61,232	—	44,377	—
Changes of assumptions	—	—	33,572	—
Net difference between projected and actual earnings on pension plan investments	21,278	—	—	(11,653)
Contributions made after measurement date	5,533	—	179	—
Total	$ 88,043	—	78,128	(11,653)

(Continued)

The $5.5 million reported as deferred outflows of resources related to employer contributions made after the measurement date as of June 30, 2016 will be recognized as a reduction of the net pension liability in FY 2017. Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows (thousands of U.S. dollars):

	Deferred outflows of resources	Deferred inflows of resources
Fiscal year:		
2017	$ 36,730	—
2018	24,617	—
2019	14,155	—
2020	7,007	—
Total	$ 82,509	—

(g) Fair Value Measurements

The following table sets forth by level, within the fair value hierarchy described in note 1, the Plan's assets at fair value as of June 30, 2016 (thousands of U.S. dollars):

	Level 1	Level 2	Level 3	Total
Corporate bonds	$ —	46,427	—	46,427
Common and preferred stock	298,387	17,274	1	315,662
U.S. government securities	35,964	19,659	—	55,623
Financial agreements	—	—	35	35
Collateralized mortgage obligations	—	42,851	—	42,851
Foreign entity's debt	—	5,595	221	5,816
Municipal obligations	—	4,038		4,038
	$ 334,351	135,844	257	470,452

(Continued)

Exhibit JFG-8

Exhibit JFG-8

PHILADELPHIA GAS WORKS
TOTAL CUSTOMER BILLINGS & RECEIPTS

	May 2014 Through April 2016				May 2015 Through April 2017			
	Customer Billings	Customer Receipts	Receipts as a % of Billings	Rolling 24 Month	Customer Billings	Customer Receipts	Receipts as a % of Billings	Rolling 24 Month
May	42,234,359	67,806,487	160.55%	92.46%	37,534,443	61,264,002	163.22%	94.88%
June	31,684,098	49,757,166	157.04%	93.14%	26,760,987	45,907,533	171.55%	95.56%
July	28,035,785	45,539,954	162.44%	93.69%	23,706,170	35,744,567	150.78%	95.82%
August	26,437,134	37,036,582	140.09%	93.47%	23,150,412	30,072,225	129.90%	96.00%
September	27,156,704	36,340,554	133.82%	94.16%	22,248,278	29,305,468	131.72%	96.03%
October	29,435,920	41,542,799	141.13%	94.83%	27,607,951	36,216,980	131.18%	95.91%
November	51,029,680	37,645,470	73.77%	95.19%	41,896,375	35,298,833	84.25%	96.53%
December	91,521,849	54,975,644	60.07%	94.82%	60,540,114	44,365,336	73.28%	97.80%
January	114,680,685	71,532,021	62.37%	94.25%	88,141,934	50,480,202	57.27%	98.07%
February	124,532,519	87,625,799	70.36%	93.84%	96,292,206	72,274,976	75.06%	99.44%
March	106,010,248	106,226,663	100.20%	94.59%	79,928,151	83,211,887	104.11%	100.44%
April	66,313,472	92,055,389	138.82%	95.07%	55,837,063	66,390,930	118.90%	99.69%
May	37,534,443	61,264,002	163.22%	94.88%	36,527,533	47,508,165	130.06%	98.58%
June	26,760,987	45,907,533	171.55%	95.56%	27,197,588	42,194,441	155.14%	98.34%
July	23,706,170	35,744,567	150.78%	95.82%	22,819,392	33,177,699	145.39%	97.79%
August	23,150,412	30,072,225	129.90%	96.00%	21,763,925	31,119,444	142.99%	97.68%
September	22,248,278	29,305,468	131.72%	96.03%	22,951,297	28,563,038	124.45%	97.40%
October	27,607,951	36,216,980	131.18%	95.91%	27,217,121	30,628,940	112.54%	96.73%
November	41,896,375	35,298,833	84.25%	96.53%	45,050,662	33,169,355	73.63%	96.83%
December	60,540,114	44,365,336	73.28%	97.80%	77,809,173	46,777,938	60.12%	97.23%
January	88,141,934	50,480,202	57.27%	98.07%	108,662,276	64,049,378	58.94%	97.10%
February	96,292,206	72,274,976	75.06%	99.44%	98,069,446	78,063,647	79.60%	98.39%
March	79,928,151	83,211,887	104.11%	100.44%	87,822,221	89,543,314	101.96%	98.49%
April	55,837,063	66,390,930	118.90%	99.69%	67,718,609	69,900,323	103.22%	96.58%
Total To-Date	**$ 1,322,716,537**	**$ 1,318,617,467**	**99.69%**		**$ 1,227,253,328**	**$ 1,185,228,622**	**96.58%**	
					$ (95,463,209)	**$ (133,388,844)**	**FY 2017 vs FY 2016**	
12 Month	$ 583,644,084	$ 590,532,939	**101.18%**	12 Month	$ 643,609,244	$ 594,695,683	**92.40%**	

Rolling 12 Month Data		Rolling 24 Month Data		Rolling 12 Month Data		Rolling 24 Month Data	
April 2017	**92.40%**	April 2017	**96.58%**	August 2016	**98.41%**	August 2016	**97.68%**
April 2016	**101.18%**	April 2016	**99.69%**	August 2015	**97.10%**	August 2015	**96.00%**
April 2015	**98.51%**	April 2015	**95.07%**	August 2014	**94.96%**	August 2014	**93.47%**

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	R-2017-2586783
Office of Consumer Advocate	:	C-2017-2592092
Office of Small Business Advocate	:	C-2017-2593497
Philadelphia Industrial & Commercial	:	
Gas Users Group	:	C-2017-2595147
William Dingfelder	:	C-2017-2593903
	:	
v.	:	
	:	
Philadelphia Gas Works	:	

VERIFIED STATEMENT

I, Joseph F. Golden, Jr., hereby state that the facts set forth below are true and correct to the best of my knowledge, information and belief and I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

1. I have submitted testimony in this proceeding on behalf of Philadelphia Gas Works and am authorized to make this statement on its behalf.

2. I prepared PGW St. No. 2 which includes Exhibits JFG-1, JFG-2 and JFG-3 and was served on the parties in this proceeding on February 27, 2017.

3. I prepared PGW St. No. 2-R which includes Exhibits JFG-1-A, JFG-2-A, JFG-4, JFG-5, JFG-6, JFG-7, and JFG-8 and was served on the parties in this proceeding on June 9, 2017.

4. I prepared reformatted versions of Exhibits JFG-1-A and JFG-2-A which were served on the parties in this proceeding on June 13, 2017.

5. I have one correction to PGW St. No. 2-R. Page 2, lines 11-12 incorrectly stated "that was inadvertently not an excluded when calculating the Debt Service Coverage..." and have been corrected to read "that was inadvertently excluded when calculating the Debt Service Coverage...."

6. I prepared PGW St. No. 5-SR which was served on the parties in this proceeding on June 22, 2017.

7. Subject to the above-referenced correction, if I were asked the same questions set forth in each of these statements today, my answers would be the same.

Date: June 26, 2017

Joseph F. Golden, Jr.

Joseph F. Golden, Jr.

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