



Philadelphia Gas Works Pension Plan

Actuarial Valuation Report for the Plan Year
September 1, 2014 – August 31, 2015



November 26, 2014

Philadelphia Gas Works
1800 N. Ninth Street
Philadelphia, PA 19122

We have been retained by Philadelphia Gas Works to perform the actuarial valuation of the Philadelphia Gas Works Pension Plan as of September 1, 2014. This report sets forth the contribution range for the Plan Year, running from September 1, 2014 through August 31, 2015. The valuation is based on data sent to us by Philadelphia Gas Works, the Plan as described in the official Plan document, the assets of the Plan as reported by Philadelphia Gas Works, and the stated actuarial assumptions.

The purposes of the actuarial valuation are:

1. To determine the financial condition of the Plan and the contribution requirements for the Plan year;
2. To provide information to be used in the preparation of any required governmental forms;
3. To provide information for use in satisfying the requirements of your auditors;
4. To provide actuarial certification of the adequacy and appropriateness of the cost method and assumptions used for your Plan; and
5. To provide comments on the developing experience under your Plan, the need for changes in the Plan or funding, and other areas of concern to you. In this respect, the actuarial valuation report becomes an essential source of information for discussions throughout the year on the Pension Plan.



In our opinion, this report is complete and accurate, and the actuarial assumptions and methods, in the aggregate, are reasonably related to the experience of the Plan and represent our best estimate of future Plan experience as it should be considered for proper funding of your pension obligations. It is also our opinion that each of the actuarial assumptions and methods utilized in this valuation are reasonable (taking into account the experience of the plan and reasonable expectations) or, in the aggregate, result in total contribution equivalents that would be determined if each assumption and method were reasonable.

Aon Hewitt is pleased to submit this report of the Pension Plan to you, and will also be pleased to discuss any aspects of the report with you after you have had a chance to review it.

Respectfully submitted,

A handwritten signature in black ink that reads "Thomas Vicente". The signature is written in a cursive style and is positioned above a horizontal line.

Thomas G. Vicente, FSA, EA
Partner
Enrollment #14-05034

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A. Comparative Summary of Principal Valuation Results

Actuarial Valuation for Plan Year Beginning

	<u>September 1, 2014</u>	<u>September 1, 2013</u>	<u>Percent Change</u>
1. Participant Data			
Active Participants	1,391	1,473	(5.6) %
Retired Participants	2,027	2,042	(0.7)
Vested Terminated Participants	<u>316</u>	<u>331</u>	(4.5)
Total	3,734	3,846	(2.9)
Total Payroll	105,635,842	103,529,519	2.0
Average Pay	75,942	70,285	8.0
Average Age	46.08	45.96	0.3
Average Past Service	17.83	17.63	1.1
2. Contribution Range			
Normal Cost (Exhibit D)	\$ 8,572,809	\$ 8,326,081	3.0
Indicated Midyear -			
10 Year Contribution (Exhibit E)	\$ 27,395,002	\$ 31,703,927	(13.6)
20 Year Contribution (Exhibit E)	\$ 21,525,928	\$ 24,385,017	(11.7)
20 Year Contribution as Percentage of Compensation	\$ 20.38%	\$ 23.55%	(13.5)
3. Liabilities			
Unfunded Accrued Actuarial Liability (Exhibit E)	\$ 129,043,741	\$ 160,921,383	(19.8)
Present Value of Accumulated Vested Benefits (Exhibit F)	\$ 558,054,974	\$ 539,162,410	3.5
Present Value of Accumulated Plan Benefits (Exhibit F)	\$ 591,107,159	\$ 570,579,747	3.6
4. Assets			
Actuarial Asset Value (Exhibit D)	\$ 514,944,313	\$ 462,690,881	11.3

B. Discussion

Since the last actuarial valuation performed as of September 1, 2013, the demographics of the plan participants has changed as follows:

- The number of plan participants has decreased 2.9%
- Total payroll has increased 2.0%
- Average pay has increased 8.0%
- Average age of active plan participants increased 0.3%

As of September 1, 2014, the normal cost has increased 3.0% from the normal cost of September 1, 2013. During the same period, the unfunded accrued actuarial liability decreased 19.8%. The normal cost has increased primarily due to the increase in the average pay and the salary increase assumption reaching an ultimate increase rate of 4.50% per year. The unfunded liability has decreased due to asset returns outperforming expectations. We expect assets to earn 7.95% per year. During the past year, assets have increased 11.3%. The actual earnings on assets, the amount of company contributions, expenses, and benefit payments impact the actual fund growth.

The contribution ranges have decreased due to the decrease in unfunded liability. During the past year, there was a large increase in average pay which was offset by strong asset performance.

C. Financial Summary

Assets as of September 1, 2013 \$ 462,690,881

Receipts

Employer Contribution	26,695,800	
Employee Contribution ¹	665,476	
Investment return	<u>70,212,049</u>	
Total Receipts		\$ 97,573,325

Disbursements

Refund of Contributions	16,178	
Benefit Payments	43,168,391	
Administrative Expenses	<u>2,135,324</u>	
Total Disbursements		\$ 45,319,893

Assets as of September 1, 2014 \$ 514,944,313

Asset Information as of September 1, 2014

<u>Asset Allocations</u>	<u>Current Allocation</u>	<u>Target Allocation</u>
Domestic Equity	53.05%	50.00%
Non-US Equity	15.21%	15.00%
Total Fixed Income	31.27%	35.00%
Other	0.47%	0.00%

<u>Annual Rate of Return</u>	<u>Market Value</u>	<u>Assumed Rate</u>
Rate	14.10%	7.95%

1. Asset information as reported by the City of Philadelphia.

D. Summary of Valuation Results

	<u>Retired</u>	<u>Vested Terminated</u>	<u>Active</u>	<u>Total</u>
1. Number of Participants Included in the Valuation	2,027	316	1,391	3,734
2. Projected Annual Benefits	\$ 43,765,073	\$ 3,614,652	\$ 133,950,409	\$ 181,330,134
3. Present Value of Projected Benefits as of September 1, 2014	\$ 405,070,484	\$ 12,230,532	\$ 307,471,656	\$ 724,772,672
4. Present Value of Future Normal Costs	\$ -	\$ -	\$ 80,784,618	\$ 80,784,618
5. Accrued Actuarial Liability as of September 1, 2014: (3)-(4)	\$ 405,070,484	\$ 12,230,532	\$ 226,687,038	\$ 643,988,054
6. Actuarial Asset Value				\$ 514,944,313
7. Unfunded Accrued Actuarial Liability: (5)-(6)				\$ 129,043,741
8. Normal Cost Payable on September 1, 2014				\$ 8,852,057
9. Expected Employee Contributions				\$ 279,248
10. Net Employer Normal Cost				\$ 8,572,809

E. Contribution Levels

Ten Year Amortization

1. Contribution for Normal Cost \$ 8,572,809

2. Amortization Schedule

<u>Effective Date</u>	<u>Amortization Period</u>	<u>Initial Amount</u>	<u>Unfunded Accrued Actuarial Liability</u>	<u>Annual Payment</u>	
9/1/2014	10	\$ 129,043,741	\$ 129,043,741	\$ 17,774,872	\$ 17,774,872
3. Contributions September 1, 2014: (1) + (2)					\$ 26,347,681
4. Contributions Mid-year (3) x 1.03975					\$ 27,395,002
5. Contributions August 31, 2015: (3) x 1.0795					\$ 28,442,322

Twenty Year Amortization

1. Contribution for Normal Cost \$ 8,572,809

2. Amortization Schedule

<u>Effective Date</u>	<u>Amortization Period</u>	<u>Initial Amount</u>	<u>Unfunded Accrued Actuarial Liability</u>	<u>Annual Payment</u>	
9/1/2014	20	\$ 129,043,741	\$ 129,043,741	\$ 12,130,175	\$ 12,130,175
3. Contributions September 1, 2014: (1) + (2)					\$ 20,702,984
4. Contributions Mid-year (3) x 1.03975					\$ 21,525,928
5. Contributions August 31, 2015: (3) x 1.0795					\$ 22,348,872

F. Actuarial Present Value of Accumulated Benefits Determined

Accounting Standards Codification Topic 960

	<u>September 1, 2014</u>	<u>September 1, 2013</u>
1. Actuarial Present Value of Accumulated Vested Benefits		
Participants currently receiving benefits	\$ 405,070,484	\$ 390,876,396
Vested terminated participants	\$ 12,230,532	\$ 12,915,663
Active Participants	<u>\$ 140,753,958</u>	<u>\$ 135,370,351</u>
Total	\$ 558,054,974	\$ 539,162,410
2. Actuarial Present Value of Accumulated Non-Vested Benefits	\$ 33,052,185	\$ 31,417,337
3. Total Actuarial Present Value of Accumulated Plan Benefits: (1d) +	\$ 591,107,159	\$ 570,579,747
4. Net Assets Available for Benefits (Actuarial Value, Exhibit C)	\$ 514,944,313	\$ 462,690,881
5. Excess (deficiency) of Net Assets Available for Benefits over (under) Actuarial Present Value of Accumulated Plan Benefits: (4) - (3)	\$ (76,162,846)	\$ (107,888,866)
6. Active Participant Count		
100% Vested	1,140	1,174
Partially Vested	0	0
Non-Vested	251	299

G. Estimated 10-Year Benefit Pay-Out Projections

Plan Year beginning September 1	Expected Annual Benefit Pay-Out During Plan Year
2014	\$ 45,903,623
2015	\$ 47,528,754
2016	\$ 49,252,081
2017	\$ 51,049,594
2018	\$ 52,969,416
2019	\$ 54,877,162
2020	\$ 56,724,920
2021	\$ 58,358,777
2022	\$ 59,976,191
2023	\$ 61,468,460

Note: The above projected pay-outs recognized expected mortality, termination, and incidence of disability and assume all benefits will commence at Assumed Retirement Date. No assumption has been made regarding possible retirements prior to Assumed Retirement Date or anticipation of new entrants.

H. Schedule of Funding Progress

Actuarial Valuation Date	Market Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
9/1/2007	\$416,183,000	\$482,380,000	\$ 66,197,000	86.28%	\$102,958,000	64.30%
9/1/2008	429,170,000	495,155,000	65,985,000	86.67%	106,047,000	62.22%
9/1/2009	355,499,000	519,773,000	164,274,000	68.40%	108,474,000	151.44%
9/1/2010	381,975,000	533,630,000	151,655,000	71.58%	111,728,000	135.74%
9/1/2011	421,949,000	572,190,000	150,241,000	73.74%	103,737,000	144.83%
9/1/2012	437,780,000	585,632,000	147,852,000	74.75%	107,494,000	137.54%
9/1/2013	462,691,000	623,612,000	160,921,000	74.20%	103,530,000	155.43%
9/1/2014	514,944,000	643,988,000	129,044,000	79.96%	105,636,000	122.16%

Notes:

Covered payroll was assumed to increase by 3% in years when the full valuation was not done.

Asset Values estimated for years when this full valuation was not done.

I. Calculation of Annual Pension Cost

I. Calculation of Annual Pension Cost (10-Year Amortization)

Actuarial Valuation Date	Unfunded Actuarial Accrued Liability	Amortization Payment	Normal Cost	Employee Contribution	Mid-year Contribution
9/1/2007	66,197,000	\$ 9,216,000	\$ 8,085,000	\$ -	\$18,015,000
9/1/2008	65,985,000	9,212,000	8,125,000	-	18,052,000
9/1/2009	164,274,000	22,872,000	8,292,000	-	32,450,000
9/1/2010	151,655,000	22,660,000	8,333,000	-	32,271,000
9/1/2011	150,241,000	21,379,000	8,171,000	-	30,769,000
9/1/2012	147,852,000	21,312,000	8,782,000	137,000	31,193,000
9/1/2013	160,921,000	22,166,000	8,533,000	207,000	31,704,000
9/1/2014	129,044,000	17,775,000	8,852,000	279,000	27,395,000

I-2. Calculation of Annual Pension Cost (20-Year Amortization)

Actuarial Valuation Date	Unfunded Actuarial Accrued Liability	Amortization Payment	Normal Cost	Employee Contribution	Mid-year Contribution
9/1/2007	66,197,000	\$ 6,345,000	\$ 8,085,000	\$ -	\$15,025,000
9/1/2008	65,985,000	6,342,000	8,125,000	-	15,064,000
9/1/2009	164,274,000	15,745,000	8,292,000	-	25,029,000
9/1/2010	151,655,000	14,851,000	8,333,000	-	24,140,000
9/1/2011	150,241,000	14,400,000	8,171,000	-	23,502,000
9/1/2012	147,852,000	14,357,000	8,782,000	137,000	23,951,000
9/1/2013	160,921,000	15,127,000	8,533,000	207,000	24,385,000
9/1/2014	129,044,000	12,130,000	8,852,000	279,000	21,526,000

Employee contributions estimated based on census data.

J. Schedule of Prospective Funded Status

J. Schedule of Prospective Funded Status (10-Year Amortization)

Actuarial Valuation Date	Market Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
9/1/2014	\$ 514,944,000	\$643,988,000	\$ 129,044,000	79.96%	\$105,636,000	122.16%
9/1/2015	536,927,663	677,959,910	141,032,247	79.20%	110,390,000	127.76%
9/1/2016	560,885,714	690,427,000	129,541,286	81.24%	115,358,000	112.30%
9/1/2017	584,929,043	702,108,000	117,178,957	83.31%	120,549,000	97.20%
9/1/2018	608,984,699	712,866,000	103,881,301	85.43%	125,974,000	82.46%
9/1/2019	632,930,295	722,505,000	89,574,705	87.60%	131,643,000	68.04%
9/1/2020	656,768,089	730,951,000	74,182,911	89.85%	137,567,000	53.92%
9/1/2021	680,554,068	738,175,000	57,620,932	92.19%	143,758,000	40.08%
9/1/2022	704,503,494	744,306,000	39,802,506	94.65%	150,227,000	26.49%
9/1/2023	728,646,996	749,279,000	20,632,004	97.25%	156,987,000	13.14%

J-2. Schedule of Prospective Funded Status (20-Year Amortization)

Actuarial Valuation Date	Market Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
9/1/2014	\$ 514,944,000	\$643,988,000	\$ 129,044,000	79.96%	\$105,636,000	122.16%
9/1/2015	530,825,370	677,959,910	147,134,540	78.30%	110,390,000	133.29%
9/1/2016	546,994,857	690,427,000	143,432,143	79.23%	115,358,000	124.34%
9/1/2017	562,656,911	702,108,000	139,451,089	80.14%	120,549,000	115.68%
9/1/2018	577,694,278	712,866,000	135,171,722	81.04%	125,974,000	107.30%
9/1/2019	591,933,762	722,505,000	130,571,238	81.93%	131,643,000	99.19%
9/1/2020	605,328,117	730,951,000	125,622,883	82.81%	137,567,000	91.32%
9/1/2021	617,873,811	738,175,000	120,301,189	83.70%	143,758,000	83.68%
9/1/2022	629,729,300	744,306,000	114,576,700	84.61%	150,227,000	76.27%
9/1/2023	640,858,870	749,279,000	108,420,130	85.53%	156,987,000	69.06%

Investment returns assumed to be 7.95% per year.

Covered payroll projected to increase by 4.5% per year.

K. GASB 67 and 68 Reports

Plan Reporting – Unfunded Liability and Normal Cost

The following table illustrates the assets and liabilities as of the end of the Plan Year used for the development of the plan reporting information under GASB 67

Plan Year Ending	8/31/2014
1. Fair Market Value of Plan Assets	\$ 462,690,881
2. Accrued Liability	
a) Active	\$ 264,127,176
b) Inactive (not in pay status)	\$ 12,915,663
c) Inactive (in pay status)	\$ 390,876,396
d) Total	\$ 667,919,235
3. Unfunded Liability	\$ 205,228,354
4. Assets as a percent of liability	69.27%

Valuation Date: Actuarial liabilities and assets are calculated as of September 1 prior to the end of the Fiscal Year in which contributions are reported.

Discount Rate: The discount rate used to measure the total pension liability was 7.95%. The projection of cash flows used to determine the discount rate assumed the contributions from Plan members will be made at the current contribution rate and that contributions from PGW will be made based on the current, actuarially determined funding policy. 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 plan members. 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.

Sensitivity

The following table illustrates the impact of interest rate sensitivity on the Net Pension Liability for the Fiscal Year Ending September 30, 2014:

	1% Decrease 6.95%	Current Rate 7.95%	1% Increase 8.95%
1. Total Pension Liability	\$ 741,916,880	\$ 667,919,235	\$ 605,460,398
2. Plan Fiduciary Net Position	\$ 462,690,881	\$ 462,690,881	\$ 462,690,881
3. Net Pension Liability	\$ 279,225,999	\$ 205,228,354	\$ 142,769,517

Valuation Date: Actuarial liabilities and assets are calculated as of September 1 prior to the end of the Fiscal Year in which contributions are reported.

Changes in Net Pension Liability and Related Ratios

Fiscal Year Ending	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Pension Liability									
Service Cost	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Interest Cost	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Changes in Benefit Terms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Differences between expected and actual experience	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Changes in assumptions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Benefit Payments	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Net Change in Total Pension Liability									
Total Pension Liability (Beginning)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Total Pension Liability (Ending)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ 667,919,235
Plan Fiduciary Net Position									
Contributions-Employer	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Contributions-Employee	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Net Investment Income	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Benefit Payments	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Administrative Expense	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Other	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Net Change in Fiduciary Net Position	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Plan Fiduciary Net Position (Beginning)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Plan Fiduciary Net Position (Ending)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ 462,690,881
Net Pension Liability (Ending)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ 205,228,354

Valuation Date: Actuarial liabilities and assets are calculated as of September 1 prior to the end of the Fiscal Year in which contributions are reported.

Schedule of Net Pension Liability

Fiscal Year Ending	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Pension Liability	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ 667,919,235
Plan Fiduciary Net Position	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<u>\$ 462,690,881</u>
Net Pension Liability (Ending)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ 205,228,354
Net Position as a % of Pension Liability	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69.27%
Covered Employee Payroll									\$ 103,529,519
Net Pension Liability as a % of Payroll									198.23%

Valuation Date: Actuarial liabilities and assets are calculated as of September 1 prior to the end of the Fiscal Year in which contributions are reported.

Actuarially Determined Contribution

Fiscal Year Ending	2006	2007	2008	2009	2010	2011	2012	2013	2014
Actuarially Determined Contribution									\$ 24,385,017
Contributions made	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ 24,385,017
Contribution Deficiency/(Excess)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ -
Covered Employee Payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ 103,529,519
Contributions as a percent of covered employee payroll									23.55%

Notes to schedule:

Valuation Date: Actuarially determined contribution rates are calculated as of September 1 prior to the end of the Fiscal Year in which contributions are reported.

Methods and Assumptions used to determine contribution rates:

Measurement Date: August 30

Actuarial Cost Method: Projected Unit Credit

Asset Valuation Method: Market Value

Amortization Method: 20 Year level dollar open amortization method

Salary Increases: 3.00% for the current year, 4.50% for subsequent years

General Inflation: 2.00%

Investment Rate of Return: 7.95%

Cost of Living: N/A

Mortality Rates: RP-2000 IRS PPA @ 2013 Mortality Table for males and females

L. Distribution of Inactive Participants by Age and Years of Retirement

1. Retirees

<u>Years of Retirement as of September 1, 2014</u>									
<u>Age</u>	<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>Total</u>	<u>Annual Benefits</u>	
								<u>Total</u>	<u>Average</u>
15-44	2	-	-	-	-	-	2	\$ 28,597	\$ 14,299
45-49	6	1	-	-	-	-	7	170,117	24,302
50-54	55	12	5	-	-	2	74	2,317,318	31,315
55-59	195	47	14	6	1	1	264	7,245,196	27,444
60-64	143	115	93	11	4	-	366	9,649,914	26,366
65-69	81	83	109	56	2	4	335	8,334,626	24,879
70-74	25	30	52	100	6	1	214	4,451,783	20,803
75-79	23	8	30	121	22	11	215	4,333,231	20,155
80-84	27	20	21	50	38	66	222	3,339,924	15,045
85-89	22	17	15	25	25	104	208	2,752,017	13,231
90+	17	10	8	7	8	80	120	1,142,349	9,520
Total	586	343	347	376	106	269	2,027	\$43,765,073	\$21,591
Average Age: 71.44 Average Retirement Years: 12.64									

2. Vested Terminated

<u>Age</u>	<u>Number</u>	<u>Annual Benefit</u>	
		<u>Total</u>	<u>Average</u>
15-44	84	\$ 646,551	\$ 7,697
45-49	72	848,651	11,787
50-54	106	1,414,669	13,346
55-59	39	529,910	13,587
60-64	14	166,517	11,894
65+	1	8,353	8,353
Total	316	\$3,614,652	\$ 11,439

(Showing Number of Employees and Average Earnings)

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N. Actuarial Methods and Assumptions

1. *Cost Methods*

The cost method used is the Projected Unit Credit Cost method. Each year the projected benefits of each participant are estimated and their present value determined. The normal cost for each active participant is determined by dividing this present value by service from entry into the plan to assumed retirement age. The total normal cost is equal to the sum of individual normal costs.

The accrued actuarial liability for each active participant is equal to the normal cost multiplied by service since entry to valuation date. The accrued actuarial liability for inactive participants is equal to the present value of their benefits. The total accrued actuarial liability is equal to the sum of the individual accrued actuarial liabilities.

The Unfunded Accrued Actuarial Liability as of any date is equal to the accrued actuarial liability less the actuarial value of assets as of such date.

Each year actuarial gains and losses occur since actual experience under the Plan will vary from the actuarial assumptions. All gains and losses will be amortized in future years.

For GASB 67 purposes the Entry Age Normal Method was used.

2. *Asset Valuation Technique*

The Actuarial Asset Value is equal to the value of fund assets as reported by the City of Philadelphia with no adjustments.

3. Actuarial Assumptions

(Unless otherwise specified, the same assumptions have been used for the determination of the Contribution Range and Accumulated Plan Benefits)

- a. Mortality: Healthy Lives: The RP-2000 IRS PPA @ 2014 Mortality Table for Males and Females as follows:

<u>Percentage of Healthy Participants Expected to Die in the Next Year</u>					
<u>Age</u>	<u>Males</u>	<u>Females</u>	<u>Age</u>	<u>Males</u>	<u>Females</u>
20	.0198%	.0120%	45	.1032%	.0704%
25	.0281	.0138	50	.1263	.1019
30	.0384	.0197	55	.1737	.2001
35	.0668	.0345	60	.3056	.3399
40	.0855	.0455	65	.9980	.9329

Disabled Lives: Disabled mortality rates are used for anticipated future disablements and current disabled lives. Sample percentages are as follows:

<u>Percentage of Disabled Participants Expected to Die in the Next Year</u>					
<u>Age</u>	<u>Males</u>	<u>Females</u>	<u>Age</u>	<u>Males</u>	<u>Females</u>
20	2.4583%	0.9650%	45	4.3033%	2.3988%
25	2.7457%	1.1974%	50	4.8004%	2.7961%
30	3.0661%	1.4843%	55	5.3120%	3.2594%
35	3.4184%	1.7654%	60	5.8118%	3.7993%
40	3.8373%	2.0579%	65	6.3669%	4.4287%

- b. Interest: 7.95%, compounded annually.

- c. Turnover: A scale varying by age and service with illustrative annual rates of turnover as follows:

Age	<u>Years of Service</u>					
	0	1	2	3	4	5
20	23.2%	17.4%	14.4%	11.6%	8.8%	5.8%
25	18.8%	14.0%	11.8%	9.4%	7.0%	4.6%
30	14.8%	11.0%	9.2%	7.4%	5.6%	3.6%
35	11.2%	8.4%	7.0%	5.6%	4.2%	2.8%
40	8.8%	6.6%	5.6%	4.4%	3.4%	2.2%
45	7.2%	5.4%	4.6%	3.6%	2.8%	1.8%
50	5.2%	3.8%	3.2%	2.6%	2.0%	1.2%
55	0	0	0	0	0	0

- d. Disability A scale varying by age with illustrative annual rates of disability as follows:

**Percentage of Participants Expected
to Become Disabled in the Next Year**

<u>Age</u>	<u>Percentage</u>
30	0.0600%
35	0.0700
40	0.1100
45	0.2200
50	0.4600
55	1.0200
60	1.6200

- e. Salary Increase

Determination of Contribution Range Salaries are assumed to increase by an amount equal to 4.5% of the salary for the current year.

Accumulated Plan Benefits Past salaries are discounted at the same rate as described above. Future salaries are assumed to remain at the same level as on the valuation date.

- f. Retirement Age Retirements are assumed to occur at the following ages:

<u>Age</u>	<u>Service</u> <u>< 30</u>	<u>Service</u> <u>> 30</u>	<u>Age</u>	<u>Service</u> <u>< 30</u>	<u>Service</u> <u>> 30</u>
55	10%	15%	63	25%	50%
56	10%	15%	64	25%	50%
57	10%	15%	65	50%	50%
58	10%	15%	66	50%	50%
59	10%	15%	67	50%	50%
60	10%	15%	68	50%	50%
61	10%	30%	69	50%	50%
62	25%	50%	70+	100%	100%

- g. Salary Current year salary is assumed to be the greater of the annualized 2014 Taxable Gross Wages based on actual wages through August 31, 2014 and the annual pay rate as provided by Philadelphia Gas Works.

4. *Change in Actuarial Assumptions*

The mortality table was changed from the RP-2000 IRS PPA @ 2013 Mortality Tables for Males and Females to the RP-2000 IRS PPA @ 2014 Mortality Tables for Males and Females to better reflect actual and future mortality experience.

The retirement table was changed for active participants to better reflect actual experience.

O. Summary of the Principal Plan Provisions

Any ambiguities or questionable provisions of this summary should be resolved by reference to the official Plan Document. This summary is not intended to be a source document, but merely an instrument of convenience for the administration of the Plan.

1. **Effective Date:** March 24, 1967, most recently amended as of June 26, 2002.
2. **Eligibility:** Full-time employees hired prior to March 24, 1967 who will have completed 15 years of Credited Service at normal retirement occurring prior to January 1, 1979 or 5 years Credited Service at normal retirement occurring on or after January 1, 1979 became participants on March 24, 1967. Employees hired on or after March 24, 1967 will become participants on their date of employment. A full-time employee is one who works regularly for 20 or more hours each week. Employees hired on or after January 1 of the valuation year are excluded from the valuation.
3. **Contribution:** Philadelphia Gas Works pays the entire cost of the Plan for all employees hired prior to May 21, 2011. Union employees hired on or after May 21, 2011 and Non-Union employees hired on or after December 21, 2011 have the option to participate in the Philadelphia Gas Works Pension Plan and contribute 6% of applicable wages to the Plan, or they may elect to participate in the 401(a) Plan with Philadelphia Gas Works contributing 5.5% of applicable wages.
4. **Credited Service:** Years and months of service credited prior to March 24, 1967 and years and months of continuous service thereafter; continuous service is reduced for periods of approved unpaid leaves (except for military leave) in excess of one month. Layoff periods are also excluded and, if in excess of one year, when approved, the employee is considered terminated.
5. **Final Average Compensation:** Average of the five highest consecutive calendar years' earnings during the last 10 years of Credited Service. Compensation includes overtime, bonus, shift differential, and any other special compensation. Per the amendment approved on November 14, 1986, compensation includes amounts deferred under the PGW Employees' Deferred Compensation Plan.
6. **Retirement Dates**
 - a. **Normal Retirement:** First of the month next following attainment of age 65 and completion of 5 years of Credited Service.
 - b. **Early Retirement:** First of any month after attaining age 55 and completing 15 years of Credited Service, or after completing 30 years of credited service.
 - c. **Late Retirement:** First of any month after Normal Retirement up to age 70.
 - d. **Disability Retirement:** If permanently disabled and has attained age 45 and completed at least 15 years of Credited Service, provided age plus years of Credited Service equals at least 65. Or after completion of at least 20 years of Credited Service regardless of age, upon recommendation of the Medical Director of the Company.

7. Benefit Formula

- a. Normal Retirement: The monthly equivalent of the greater of (i) or (ii) below, payable for life.
 - i. 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 Credited Service; maximum of 60% of the highest annual earnings during any one of the last 10 years of Credited Service; applicable to all participants.
 - ii. 2% of total earnings received during period of Credited Service plus 22.5% of the first \$1,200 of such amount; applicable only to participants who were employees on or prior to March 24, 1967.
 - b. Early Retirement: Same as 7(a) above, based upon Final Average Earnings and Credited Service as of the early retirement date and reduced by the percentage described in 8 below depending upon Credited Service as of the early retirement date.
 - c. Late Retirement: Same as Normal Retirement Benefit based on Final Average Compensation and Credited Service as of Late Retirement Date.
 - d. Disability Retirement: Same as Normal Retirement Benefit, based on Final Average Compensation and Credited Service as of date of disability.
8. Benefits Upon Termination of Employment - Vesting: All participants who terminate after having completed at least 5 years of Credited Service are entitled to a benefit as described in 7(a) above, based upon Final Average Compensation and Credited Service as of the date of termination.

Early Commencement of Payments: A former participant who is entitled to a deferred benefit may elect to have his benefit commence on the first day of any month between his 55th and 65th birthdays. Such benefit will be reduced by 3% for each of the first 5 years and 5% for each of the next 5 years by which commencement of payments precedes age 65. If the participant has completed 25 years of Credited Service, his benefit will be unreduced for the first 3 years and reduced by 3% for each of the next 2 years and by 5% for the following 5 years by which commencement of payments precedes age 65.

If a participant has completed 30 or more years of credited service, payments are not reduced.

9. Death Benefits

- a. Before Retirement: Spouses of deceased active participants 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 or who have completed at least 20 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 disability on the day preceding his death and elected the 100% Contingent Annuitant Option.

- b. After Retirement: None except as provided by election of an optional form.

10. Normal Form of Benefits: Life annuity

11. Optional Benefit Forms: 100%, 75%, or 50% Contingent Annuitant option, 75% or 50% Joint and Last Survivor option.