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SELLING THE PHILADELPHIA GAS WORKS:
CONSEQUENCES FOR THE CITY
AND THE CONSUMER

Pennsylvania
Economy League, Inc.

Eastern Division

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PENNSYLVANIA ECONOMY LEAGUE, EASTERN DIVISION
1211 Chestnut Street, Suite 600
Philadelphia, PA 19107

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PREFACE

At the turn of the century, a debate raged over the ownership and regulation of public utilities. Eventually, advocates of private-sector ownership and public-sector regulation prevailed. Among large cities, the City of Philadelphia has been the single significant exception to this rule. The city has owned the Philadelphia Gas Works (PGW) since 1841. The long history of municipal ownership seems to be the primary justification for its continuance. This is now being challenged.

As Philadelphia confronts harsh fiscal realities, questions have arisen as to the proper role of the city government: Should the government be in the business of making a profit? Can private-sector ownership provide the service more efficiently? What are the benefits of municipal ownership?

This report attempts to answer these questions and draws a conclusion regarding the sale of the utility to the private sector. The first chapter describes the history and structure of the Gas Works. Chapter II examines the PGW's financial and demographic environment and prospects for the future. Chapter III compares PGW to investor-owned utilities in terms of rates, spending, demographics and delinquencies. Chapters IV and V discuss ways to structure a sale and options for the city in placing the proceeds. Chapter VI examines the consequences of a sale for the gas consumer, the utility, the city and the state. The final chapter contains PEL's conclusions and recommendations.

We wish to acknowledge the financial assistance of the Thomas Skelton Harrison Foundation for this study. The staff principal for this report was former Research Associate Steven Paisner, under the supervision of Edgar Rosenthal, Director of Research. Research Assistant Stephen Landis also participated in the study.

Dianne E. Reed, Ph.D.
Executive Director

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EXECUTIVE SUMMARY

The City of Philadelphia has owned the Philadelphia Gas Works since 1841. In terms of customers and revenues, PGW is the largest municipally owned utility in the nation. The Pennsylvania Economy League finds no justification for continued municipal ownership of the Gas Works. In addition, PEL concludes various benefits could result from a sale of PGW to the private sector.

Major Findings

1. PGW is financially stable, but prospects for growth are limited and several cost areas are rising.

- o A mature service area and geographic limitations constrain PGW's growth potential.
- o PGW's cost of purchased gas declined over the past 5 years, as other operating expenses rose. PGW customers' typical monthly bill stayed relatively constant over this period (see Figure 1).
- o Delinquent accounts are a continuing problem for PGW. Several programs temporarily reduced delinquencies between FY83 and FY85. Delinquencies have since risen due to new PGW repayment programs. Most delinquent accounts are residential accounts and have been delinquent for more than 90 days.

2. PGW gas rates are higher than those of many investor-owned gas utilities on the Northeastern seaboard.

- o Of nine utilities in the comparison, PGW residential customers' typical monthly gas bill was the third highest in 1987, 7 percent above the median.

3. PGW operating costs are higher than the average for investor-owned gas utilities on the Northeastern seaboard.

- o PGW's cost of purchased gas was comparable to that of other utilities.
- o On a per-customer basis, PGW's operational costs excluding gas purchase/production were 29 percent higher than those of the investor-owned utilities.
- o On a per-customer basis, PGW spending on personnel was the highest in the comparison, more than 40

Fig. 1: PGW RATES AND EXPENSES
FY84-FY88

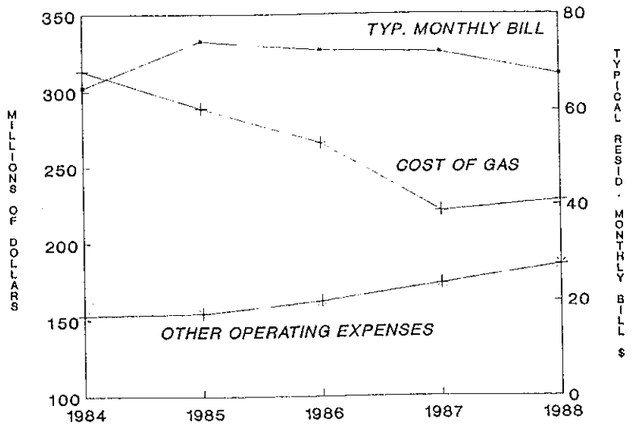
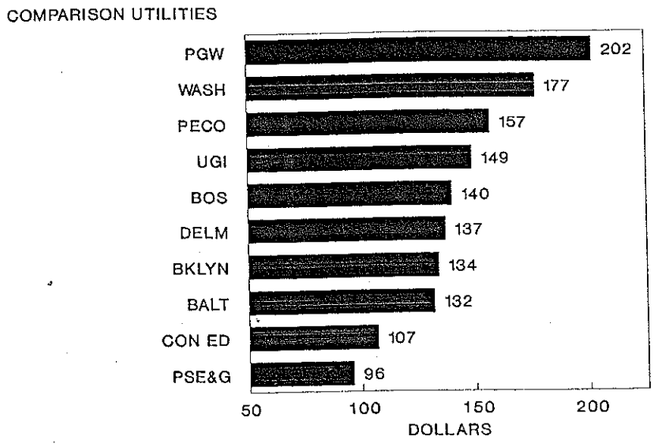


Fig. 2: PERSONNEL COSTS PER CUSTOMER
1987



percent above the median (see Figure 2). High personnel spending is attributable to exceptionally high numbers of employees, when compared to the average for investor-owned utilities.

- PGW had the highest percentage of customer delinquency in a comparison with Pennsylvania utilities, a level two and a half times the median.

4. A privately owned PGW would be regulated by the Pennsylvania Public Utility Commission rather than the Philadelphia Gas Commission.

- Under PUC regulation, the privately owned utility's retained earnings would be substantially higher than current earnings (after payment of the city $18 million fee).

- The PUC will make determinations on appropriate rate base and rate of return on common investor equity, which will affect gas rates.

5. The elements of a private PGW's revenues and expenses will change. The changes will affect gas rates.

- A private PGW would be subject to $33 million to $38 million in new taxes. The Commonwealth of Pennsylvania would collect almost eighty percent of these new tax revenues.

- A private PGW would not be subject to the $18 million payment to the city.

- A private PGW would most likely eliminate certain social programs such the senior citizens discount and gas appliance programs. No private utility offers a program such as the senior citizens discount which offers customers over 65 years of age a 20 percent discount without regard to ability to pay.

6. Gas rates under private ownership could decline.

- Savings from elimination of the city fee, senior citizens discount, and gas appliance programs would partially offset the new taxes to which a privately owned PGW would be subject. Gas rates could be lowered by favorable PUC rulings, reductions in personnel expenses, or reductions in uncollectible reserve costs.

- Under the best-case scenario, the typical residential monthly bill would be reduced by $4.08, or 6.0 percent. Under the median-scenario, the typical bill would increase by 1 percent, while under the worst-case scenario, the typical bill would rise by 8 percent (see Figure 3).

- A reduction in the uncollectible reserve expense to the comparison average is unlikely due to PGW's unique service area characteristics. However, PGW's own collection efforts between 1983 and 1985 demonstrate that delinquencies can be significantly reduced and the uncollectible account expense lowered. Also, an examination of utilities with overlapping service areas (such as the Philadelphia Water Department and the Philadelphia Electric Company) suggests that some savings are possible. But even if a private PGW did not reduce the uncollectible reserve expense, the typical monthly bill could still decline, if other costs were cut sufficiently (Figure 4).

7. As the seller, the city would have to determine the structure of the sale and a reasonable sales price.

- The city could expect to receive at least $200 million from a sale.

- The buyer would have to provide funds to retire (or defease) over $500 million in bonded debt.

- The city would have to choose between different methods of structuring the sale, including: 1) takeover by an existing company, 2) public stock offering, or 3) leveraged buy-out.

8. The city's operating fund balance should not be affected by the sale of the utility, assuming proper use of the sale proceeds.

- The interest on investment of the proceeds, or other uses discussed below, are likely to produce an amount equal to the $18 million the city presently receives from the Gas Works.

Fig. 3: RATE PROJECTIONS FOR PRIVATE PGW
All Variables, FY88

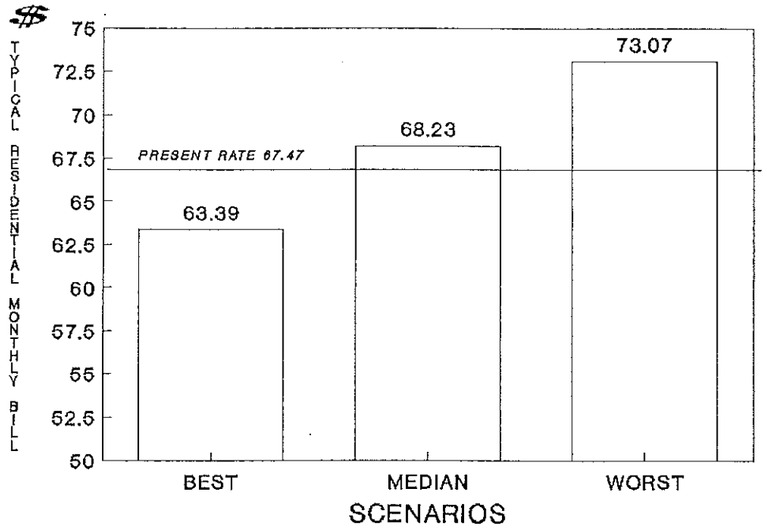
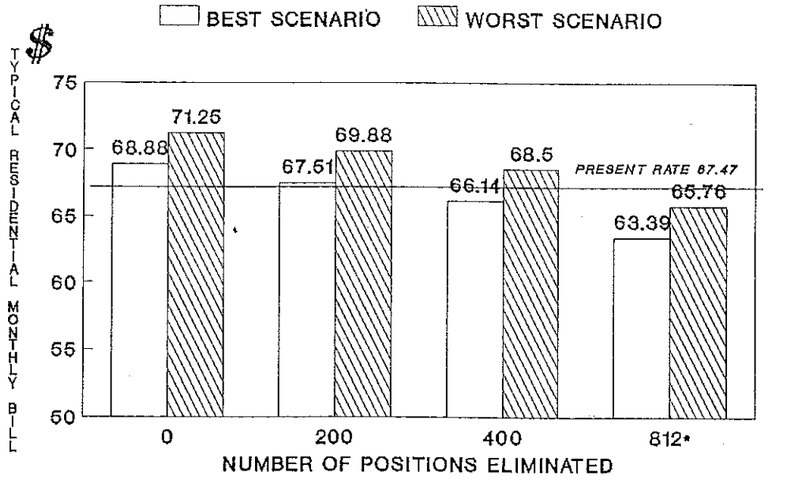


Fig. 4: RATE PROJECTIONS FOR PRIVATE PGW
If Employee Level Reduced and Regulatory Variables Favorable, FY88



* Reduced to COMP 1 Avg.

Recommendations

1. **The city should seek to sell the Philadelphia Gas Works.**

   - o In setting conditions for the sale, the city should specify that average rates be reduced. The city should seek to sell PGW to an existing utility or pipeline company. In the bidding process, the city should consider the potential buyer's qualifications in terms of a sound financial base and proven track record.

2. **The city should use the sale proceeds to retire outstanding debt or finance capital improvements.**

   - o The city should not use proceeds from the sale as a "quick fix" to fill budget gaps. Such a maneuver would only serve to harm Philadelphia's credit rating and ability to borrow.

   - o Using the proceeds to retire outstanding debt would allow the city to expand restricted debt capacity, issue new debt and fund needed capital improvements.

   - o If outstanding debt is retired without being replaced, the city's debt service could be reduced.

3. **The city should negotiate a deal with the state whereby a portion of the revenues from the gross receipts tax is returned to the city.**

   - o By selling the Gas Works, the city will make the state an unintended beneficiary of a private utility's taxes. The state stands to collect in the range of $26 million to $29 million in tax revenues, mainly from the 4.4 percent public utility gross receipts tax. The city should negotiate a deal with the state so that each benefits from the new tax monies. The deal could have the state provide the city with an annual general support grant to be paid from a portion of the new revenues.

4. **If the city does not or cannot sell the utility, it should use its power over PGW's budget to reduce personnel costs which will lower rates.**

   - o For fiscal year 1989, in response to the denial of its rate increase request, PGW reduced its

personnel complement. However, further substantial reductions would still be required for PGW to reach the average of private utilities in the comparison. Personnel reductions might require changes in PGW's services, such as charging for routine service calls, reducing frequency of meter readings (or contracting for the service), or eliminating the appliance sales program.

5. **If the city does not or cannot sell the utility, it should reduce average rates by eliminating and revising certain "social" and repayment programs.**

   - o The senior citizen discount program shifts more than $14 million per year to other customers. The present program is inherently inequitable. For example, senior citizens with the ability to pay are in effect subsidized by younger people who may have a lesser ability to pay. The program is an example of poor public policy and should be eliminated.

   - o PGW's repayment programs also should require a means test for eligibility. Participants in repayment programs should have to prove an inability to pay their gas bills. Such a means test is a standard provision in repayment plans of other utilities, including the Philadelphia Electric Company.

CHAPTER I
INTRODUCTION

The Philadelphia Gas Works (PGW) is the nation's largest municipally owned utility. Serving approximately 516,000 residential, commercial and industrial customers, PGW distributes gas within the 129 square mile limits of Philadelphia.

History of PGW[1]

In 1835, the City of Philadelphia founded the Gas Works by authorization of a $100,000 stock sale to private investors. From the start, the city attempted to strike a balance between municipal control and private sector involvement. Terms of the authorization included the creation of a municipally-appointed board of trustees to oversee the management and operations of the privately owned utility.

Private ownership did not last long. In expectation of sizable profits, the city exercised its option by taking control of the utility in 1841. The board of trustees continued to oversee PGW's management and operations. Although the trustees were selected by the City Councils (there were two Councils then), various interests clamored for greater municipal control over operations. The debate was to be the first in what would be a lasting struggle over the appropriate level of municipal involvement.

Meanwhile, the Gas Works was growing as the city grew. The 1854 Act of Consolidation merged the 27 surrounding boroughs, districts, and townships into the City of Philadelphia. As a result, nine smaller gas companies became part of the Gas Works.

The utility grew at a time when the board of trustees came under public criticism for mismanagement, high gas rates and corruption. In 1885, financial and public concerns led the city to wrest control of the utility from the trustees. The Councils took effective control of the Gas Works, although management responsibilities officially fell to an executive branch department. However, the mismanagement and patronage abuse that had characterized the trustees' tenure, continued under the Councils' control.

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1 This section drew information from the following sources:
PGW Newsline, "150th Anniversary Issue", February, 1986;
Municipal Governance Study, Committee of Seventy, February, 1985.
PGW Annual Reports: 1986 and 1987.

Recognizing the inefficiency and impracticality of direct management, the Councils tried to sell the Gas Works for $15 million. Finding no interested buyers, the city lowered its price to $10 million but was still unsuccessful. As the century's final decade approached, the Gas Works was in dire need of extensive capital improvements and the city was facing pressing fiscal difficulties. Gas supplies were often inadequate. An 1888 contract with the Philadelphia Gas Improvement Company, which supplied gas on terms favorable to the city, alleviated the supply crisis. However, the management and infrastructure problems remained. Unable to effectively manage the utility, the Councils still considered the Gas Works to be a valuable asset. In the late 1890s, Councils rejected a $20 million offer from a group of private investors.

In 1897, the city leased the management of the Gas Works to the United Gas Improvement Company (UGI). The 30-year lease required UGI to spend $15 million in capital improvements and provide free gas for municipal functions. In exchange, UGI was entitled to a management fee and a variable percentage of the company's profits. Councils maintained their rate-making authority.

Operations and distribution efficiency improved under UGI. Still, the century-long debate over municipal involvement continued. The second lease strengthened city involvement by handing rate-making powers to a Gas Commission. The Commission was composed of three members: one appointed by the city, one appointed by the company, and the third appointed by the other two. This agreement required UGI to pay a $4.2 million annual fee to the city. The contract also had the effect of lowering gas rates.

Though generally pleased with UGI management, the city renegotiated the 1961 contract with the intention of strengthening its position. The contract eliminated UGI's power to designate a Gas Commissioner, while expanding the Commission's oversight authority to include responsibility for approving PGW's operating and capital budgets.

The city acquired more power in 1972, when it did not renew its lease agreement with UGI. Viewing the $1 million management fee as unjustified profit-making, the city retained PGW's top management and created a non-profit organization to manage the utility. The city formed -- and contracted with -- the Philadelphia Facilities Management Corporation (PFMC) for the management of PGW. The management fee was reduced to $200,000.

The city's effort to be effective at owning and controlling a gas utility has been the basis for the major changes that have taken place since 1841. The 1972 creation of PFMC was another attempt to strike a balance between public and private, between efficiency and authority. This balancing act continues today. Government officials and gas consumers are questioning the propriety of municipal ownership and the role of government as a profit-making entity. Others are asking if private ownership would provide adequate gas service at lower costs and if a sale would mean financial benefit to city government. The questions reflect the long-standing debate about municipal ownership; they are the questions that the city will be forced to answer before a sale of the Gas Works can become a reality.

Organization and Processes

The city has created structures and processes designed to maintain a degree of control over the privately-managed gas utility. Directly or indirectly, the city has a say in the setting of rates, the hiring of PGW executives, the approval of budgets, and the utility's financial and service policies.

Philadelphia Facilities Management Corporation

The Gas Works is managed by the Philadelphia Facilities Management Corporation, a non-profit organization created specifically for the purposes of managing PGW. Members of PFMC's five-member board are appointed by the mayor for two-year terms. Board members receive no compensation.

The PFMC board selects PGW's:

- Chief Executive Officer
- Chief Operating Officer
- Chief Financial Officer.

By terms of the 1972 agreement, PFMC, as the operator of PGW, is required to pay a fee to the city (currently $18 million). In exchange for its services, the city pays PFMC a management fee (currently $300,000).

Philadelphia Gas Commission

The Philadelphia Gas Commission (PGC) is the rate-making and regulatory body charged with protecting the interests of the city and PGW's customers. The commission is comprised of five members: the city controller (or his representative), two members appointed by the mayor, and two members appointed by the City Council.

Responsibilities of the PGC include:

- o fixing and regulating gas rates
- o reviewing and approving PGW's operating and capital budgets
- o approving short-term loans
- o approving PFMC's selection of PGW executives
- o overseeing PGW's services to the public
- o approving real estate transactions[2]

The Budget Process

The city's control over PGW extends beyond the appointment process. PGW's budget-making process gives several elected and appointed city officials the authority to review and approve. Such powers can have a direct effect on gas rates.

The Gas Works' operating budget must go through the PFMC board, the Director of Finance, and the Gas Commission before receiving final approval. The capital budget is reviewed and approved by the Director of Finance, the Gas Commission, and finally, the City Council.

2 Stone & Webster Management Consultants Report, Gas Works Revenue Bonds, Eleventh Series, May 1987, p.II-11.

CHAPTER II
DEMOGRAPHIC AND FINANCIAL TRENDS OF PGW

This section examines the Gas Works' demographics and finances. While a complete analysis would be undertaken by a potential purchaser, the discussion here is limited to a brief examination of PGW's financial health and prospects for the future. The Gas Works' financial stability and ability to make a profit will be issues central to the debate on selling the utility.

Several of the financial and demographic projections are drawn from a 1987 report by Stone & Webster, an independent engineering consultant retained by PGW. Specifically, this section focuses on PGW's:

- o Customer base and gas revenues
- o Operating expenses
- o Gas rates
- o Delinquent accounts trends
- o Income and earnings
- o Debt service coverage
- o Capital spending and capital needs
- o Annual payments to the City of Philadelphia

Customer Base and Gas Revenues

PGW serves approximately 516,000 customers. The Gas Works' customer base shrunk by more than 4.5 percent between FY75 and FY87 (see Appendix Table 1). However, the rate of customer base decline has been below the rate of city population loss. Since FY84, the customer level has been relatively constant.

Approximately 84 percent of gas sales are to "firm" customers. Firm customers receive gas service that cannot be interrupted. The remaining sales are to interruptible customers, those large industrial and commercial firms that can expect an interruption in their service on short notice during peak-use periods.

PGW's revenues from gas sales have decreased in the past several years. Colder weather boosted revenues from heating customers in FY84, but generally, revenues have declined within the $450 to $490 million range (see Appendix Table 2). Revenues decreased by 8.4 percent between FY84 and FY88. A decline of over 36 percent in interruptible revenues was largely responsible for the decrease. The city's conversion to a service sector economy has restrained any significant growth in interruptible gas sales. However, PGW estimated a sharp turn-around in interruptible revenues for FY88. After a 25 percent decrease in FY87, the FY88

estimate of interruptibles was up 19 percent, perhaps signaling a brighter future for interruptible sales. Firm revenues dropped by more than 4 percent over the FY84 to FY88 period.

Prospects for future growth are constrained largely by geographical limitations. Because the Gas Works serves about 70 percent of households in the city, there is little room for conversion to gas from alternate energy sources. The consultant's report predicts less than 1 percent growth in the residential customer level by FY92. Significant customer growth would have to come from population growth. However, PGW's service area is restricted to the city limits, and any regional growth in population is expected to take place in the suburbs. By the turn of the century, Philadelphia is projected to have lost more than 11 percent of its 1980 population.[1]

Generally, PGW is considered to have a mature service area with little room for growth.[4] PGW is counting on the conversion of steam-loop customers to provide the major area of significant service expansion.[5] The steam-loop is an oil-fired system serving parts of downtown Philadelphia. The 1987 consultant's report projected a 93 percent conversion of steam-loop customers to gas. Customer and revenue levels were projected on that basis (see Appendix Tables 1 and 2). However, the consultant's projections have fallen short so far.[6] While PGW claims that steam-loop customers will ultimately convert, customer and revenue projections remain subject to dispute.

Nevertheless, the engineering consultant has forecast increases in the customer level and gas sales. The consultant's report forecasts an annual 0.4 percent increase in the number of customers and an annual 2.4 percent jump in sales over the period 1987-1992.[7]

Also affecting revenues are several programs designed to benefit specific customers groups. The senior citizen discount program is the most expensive of the plans. Authorized by a 1973 City Council ordinance, the program gives customers over 65 years of age a 20 percent discount on their utility bills. By PGW's estimate, in FY88 this program cost the utility $14.4 million in revenue that would have otherwise been collected. This figure represents a

1 Stone & Webster Management Consultants Report, Gas Works Revenue Bonds, Eleventh Series, May 1987, p. II-14.
4 Philadelphia Gas Works, Rate Filing, Testimony of Paul Moul, Associated Utility Services, Inc., p. 10.
5 Stone & Webster, p. II-16.
6 Standard & Poor's Creditweek, July 11, 1988, p. 28.
7 Stone & Webster, p. II-16. Projections do not reflect FY89 filing for rate increase.

Table 1
Operating Expenses by Function, FY 1984-88

Millions of Dollars

	Fiscal Year					
	1984	1985	1986	1987	1988	1984-88
Total Oper. Expenses	458.3	444.6	429.4	396.6	410.8	-47.7
Cost of Purchased Gas	305.8	290.1	267.0	222.9	230.4	-75.5
Gas Processing	16.8	16.4	18.7	18.9	22.6	5.9
Customer Service	18.2	19.5	20.3	20.9	21.4	3.2
Distribution	12.3	13.0	13.4	14.4	14.9	2.6
Collect. & Meter Reading	11.2	12.9	12.9	14.0	14.5	3.3
Approp. for Unc. Reserve	25.4	21.7	19.2	22.2	25.8	0.4
Admin. & General	18.7	19.6	25.1	26.1	26.4	7.7
Other Operating Expenses*	49.7	51.3	52.7	57.2	60.2	10.3
Total Oper. Expenses except Cost of Purchased Gas	152.4	154.5	162.4	173.7	185.9	33.3

Annual Percent Change

	Fiscal Year				
	1985	1986	1987	1988	1984-88
Total Oper. Expenses	-3.0	-3.4	-7.6	3.6	-10.4
Cost of Purchased Gas	-5.2	-8.0	-16.5	3.3	-24.7
Gas Processing	-2.5	14.5	0.9	19.8	34.9
Customer Service	7.0	4.4	2.7	2.6	17.6
Distribution	5.8	2.8	7.0	4.0	20.9
Collect. & Meter Reading	15.2	-0.3	8.2	3.7	29.0
Approp. for Unc. Reserve	-14.6	-11.5	15.7	16.2	1.6
Admin. & General	5.1	27.6	4.2	0.9	41.0
Other Operating Expenses*	2.7	2.8	8.6	5.2	20.6
Total Oper. Expenses except Cost of Purchased Gas	1.2	5.1	7.0	7.0	21.8
Exhibit: Annual Change in CPI	4.6	3.6	3.1	5.0	

* Includes Customer Relations, Customer Accounts, Marketing, Pensions, Taxes, Net Depreciation and Amortization.

Source: PGW Annual Reports 1984-1987; 1988 Estimated/Actual figures from PGW

6 percent increase over the previous year. Another $2.1 million went uncollected due to the utility's contributions to other assistance programs. These programs will be discussed later in this chapter.

Operating Expenses

Total operating expenses declined by more than 10 percent between FY84 and FY88. Table 1 summarizes expenses and the annual change on a functional basis. The cost of purchased gas and raw materials declined by almost 25 percent during the FY84-88 period. The decline was due to a combination of a several factors: lower pipeline and spot market prices, deregulation, decreasing gas sales, decreasing gas refunds from pipeline suppliers, and several warmer heating seasons.[8] However, PGW forecast a 5.8 percent increase in the cost of purchased gas for FY89. In August 1988, the Gas Commission granted a $20 million rate hike that would recover the projected cost increase. An increased gas cost was predicted by the 1987 engineering consultant's report. The consultant's forecast shows a 32 percent increase over FY87 cost by FY92. In contrast to the past four years, in each of which the cost of purchased gas has dropped, each of the next five years will witness increases.[9]

Although the cost of purchased gas makes up a large part of operating expenses (56 percent in FY88), increases in other operational costs were large enough to offset the decreasing cost of gas. These increases kept rates high and led PGW to request rate hikes in FY87 and FY89. Between FY84 and FY88, total operating expenses except for the cost of purchased gas rose by 21.8 percent, nearly the percentage that purchased gas expenses *decreased*.

The appropriation for uncollectible reserve was the fastest growing non-gas expense in the past three years, due to the growth of delinquent accounts. This expense had the smallest increase over the five year period, but the largest increase since FY86. In addition, although the uncollectible reserve appropriation accounted for only about 14 percent of total non-gas expenses in FY88, it's increase since FY86 made up more than 28 percent of the total increase. Most of the other operational costs increased at rates similar to the rate of inflation. Customer service was the slowest growing cost area, increasing only 5.3 percent since FY86.

8 Bond prospectus, City of Philadelphia, Gas Works Revenue Bonds, Eleventh Series, June 26, 1987, p. 13.
9 Stone & Webster, p. II-60, exhibit II.

Table 2
Operating Expenses by Object of Expense, FY 1984-88

Millions of Dollars

	Fiscal Year					
	1984	1985	1986	1987	1988	84-88
Total Oper. Expenses	458.5	444.6	429.4	396.6	410.8	-47.7
Personal Services	62.0	66.2	70.3	73.0	76.8	14.8
Purchase of Services	30.3	31.6	34.5	38.6	42.1	11.8
Materials and Supplies	7.3	6.7	8.2	7.1	8.8	1.5
Employee Benefits	17.9	17.5	17.8	17.0	15.4	-2.5
Depreciation	15.4	16.4	16.6	21.7	22.5	7.1
Cost of Goods Sold	305.9	290.1	267.0	222.9	230.4	-75.5
Other Operating Expenses	19.3	15.9	14.9	16.2	14.7	-4.6

Annual Percentage Change

	Fiscal Year				
	1985	1986	1987	1988	84-88
Total Oper. Expenses	-3.0	-3.4	-7.6	3.6	-10.4
Personal Services	6.8	6.2	3.8	5.2	23.9
Purchase of Services	4.3	9.2	11.9	9.1	38.9
Materials and Supplies	-8.2	22.4	-13.4	23.9	20.5
Employee Benefits	-2.2	1.7	-4.5	-9.4	-14.0
Depreciation	6.5	1.2	30.7	3.7	46.1
Cost of Goods Sold	-5.2	-8.0	-16.5	3.4	-24.7
Other Operating Expenses	-17.6	-6.3	8.7	-9.3	-23.8

Source: Philadelphia Gas Works

Table 2 shows the expenses by object of expense. Personnel expenses rose by almost 24 percent between FY84 and FY88, while purchase of service expenses increased by almost 39 percent. PGW's workforce grew by more than a hundred people between FY84 and FY88. Chapter III will compare PGW's personnel costs to the costs of other utilities.

Gas Rates

In FY86, the Gas Commission approved a $28.65 million base rate increase, the only base rate hike over the five-year period. In addition to the base rate, customer billings are affected by the Gas Cost Rate (GCR), a mechanism developed to allow PGW to recover gas costs, and pass savings in gas costs on to the customer.

Despite the GCR, the typical monthly bill did not decrease with the cost of purchased gas between FY84 and FY88. During this period, the typical residential monthly bill rose by more than 4 percent while gas costs fell by 25 percent. Typical bills rose by more than 15 percent between FY84 and FY85.[10] Since then, rates have slowly and steadily declined. Typical bills of the other customer classes experienced similar movement over the period. However, there were differences in the size of the typical bills. The average typical monthly bills for the customer classes between FY84 and FY88 were:

Residential	$ 70.26
Commercial	203.82
Industrial	671.20
Phila. Housing Authority[11]	67.04
Municipal[12]	601.40

PGW requested a base rate hike of $49 million for FY89. The Gas Commission denied the request and instead ordered a $2.4 million rate reduction. Had the Commission granted the entire rate increase, the typical residential bill would have jumped by more than 16 percent.

10 Information supplied by Philadelphia Gas Works. Bills are as of January of each fiscal year.
11 PGW maintains separate service contracts with the Housing Authority and the municipal government.
12 Residential and Housing Authority bills were based on 100 therms; commercial bills, on 300 therms; industrial and municipal bills, on 1000 therms.

Delinquent Accounts

Delinquent accounts have been a continuing problem for the Gas Works, driving up rates and hindering cash flow. For example, at April 30, 1988, delinquent accounts totaled $95.6 million, an amount equal to more than 20 percent of annual operating revenues (see Appendix Table 3). At fiscal year end (August 31, 1988), PGW had $83.7 million of customer accounts receivable, and a $40.9 million provision for uncollectible accounts.

The vast majority of delinquent accounts have been overdue for 90 days or more. After this 90-day period, accounts are written off as uncollectible. Accounts that have been delinquent for 90 days totaled $30.4 million in FY84. This figure rose to $47.9 million by April 30,1988, half of all delinquent accounts. Most delinquent accounts are those of residential and small commercial customers (see Appendix Figure 1).

The Gas Works made a serious attempt to deal with the delinquency problem in 1982, 1983 and 1984 when a series of new collections and payment programs were begun. These programs met with temporary success: Accounts receivable were reduced by more than $20 million between FY82 and FY84 and delinquencies were also significantly reduced.[13]

Special assistance and repayment programs available to PGW customers include:

o The federally-funded Low Income Energy Assistance Program (LIHEAP), a program to assist customers with income at or below 150 percent of the poverty level. Between FY84 and FY88, more than 240,000 PGW customers received LIHEAP assistance. In FY88, nearly 41,000 customers received more than $9 million in LIHEAP assistance. PGW makes no contribution to the financing of this program.

o The Utility Emergency Services Fund (UESF), a fuel fund that provides poverty level customers with small grants to offset arrearages and ensure continued service. In FY88, PGW contributed $216.6 thousand to the fund, benefiting 2,158 customers.

13 An accounting change in 1983 reduced from 270 to 90 days the time before a customer account is written off as uncollectible. This change did not affect collection procedures or the level of delinquent accounts. The annual average of delinquent customers changed as follows: 1982, 161,654; 1983, 151,066; 1984, 131,052; 1985, 141,521; 1986, 153,086. Stone & Webster, p. II-57.

o The Limited Service Program, which provides restricted gas supplies for heating, water-heating and cooking to customers whose service has been terminated. Qualified customers must be at or below 150 percent of the poverty level and agree to a strict payment plan. Funding for the program comes primarily from the city, though PGW contributed nearly $88 thousand.

o Repayment Plans

The downward trend in delinquencies and accounts receivable created by these programs was reversed in FY85. By FY86 receivables reached the FY82 level of $94 million. Two repayment plans, established in 1985, were the primary cause of the rising level of accounts receivable and delinquencies.

o The "five and two" repayment agreement plan allows the delinquent customer to pay five percent of the past due amount plus two percent of the remaining balance per month. An income test of 150 percent of the poverty level is required. Designed to reduce delinquencies by helping customers pay their bills, the program was amended soon after its inception. The revision allowed participating customers forgiveness of up to 50 percent of their past due amount. The forgiveness part of the package, as distinct from the repayment part, turned the program into a "social policy" device. Customers were helped, but delinquencies and receivables rose. Through FY88, approximately 81,000 customers took part in the plan.

o The so-called "20 percent" plan allowed customers of any income level to participate provided they pay 20 percent of arrearages instead of 5 percent. The "20 percent" plan does not have a forgiveness provision. As of February 1987 (the most recent available data), 73,274 people entered into 20 percent agreements.

The forgiveness components of the plans led to an increase in reactivated accounts. The number of customers whose service had been terminated and then reactivated increased by about 71 percent since FY84. Critics of these repayment plans claim that they are far too liberal, decrease PGW's revenues, and drive up rates for the customers who pay on time. Despite the supposedly liberal nature of these plans, however, PGW terminated service on nearly 36,000 customers in FY88; reactivated accounts numbered more than 23,000.

PGW also runs several programs to help customers conserve energy and keep their bills down to payable levels. Weatherization and gas appliance marketing and service programs help hold down delinquencies by making gas more affordable. There are no data available to determine if the

costs of these programs outweigh the benefits. PGW estimates that the cost of the gas appliance program is about $5 million per year, based on an estimated cost of $30 per appliance service call.

Comparisons. Comparing PGW's delinquencies to those of the Philadelphia Water Department illustrates the depth of PGW's problem. Both utilities serve the same area and, to a large extent, the same customers. Theoretically, the customers of each should have a similar ability to pay. However, while both utilities have a high level of accounts receivable, more than 44 percent of PGW's FY88 receivables were classified as "doubtful" or "uncollectible" and were thus no longer counted as assets; only 9 percent of the Water Department's receivables were classified as such.[14] The $40.9 million that PGW reserved as doubtful accounted for nearly 9 percent of its operating revenue; the Water Department's doubtful account reserve was about 4 percent of operating revenue. PGW's higher percentage of uncollectible accounts among the same customer group suggests that either: 1) the typical water bill is lower and thus easier to pay, 2) people place a higher priority on water than on gas service and will pay the water bill first, or 3) the Water Department, unlike PGW, primarily serves property owners and not tenants and has the ability to place liens against property owners, or 4) the potential exists for the gas utility to increase collections and reduce delinquencies.

The consultant's report did not foresee any significant reduction in accounts receivable within the next several years.

Income and Earnings

As a municipally owned utility, PGW operates on a smaller earnings margin than most privately owned utilities. The "profit" that PGW earns is that amount of net income remaining after payment of the $18 million city fee. These "net earnings" are transferred to city equity. Net earnings have been relatively small or non-existent since 1985 (see Appendix Table 4). In FY84, the utility retained almost $33 million. Since then, however, retained earnings have never been more than 5 percent of city equity. In FY85 and FY86, the utility's net earnings were negative.

Net income, the measure of revenues over expenses before payment of the city fee, has ranged from a low of $19.1 million in FY86 to a high of $50.8 million in FY84. Over the FY85-88 period, net income as a proportion of city equity has averaged 12 percent, a figure at the low end

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14 City of Philadelphia, Annual Financial Report, Fiscal Year 1988, p. 84-88.

compared to investor-owned utilities. City equity has grown by only 4 percent since FY84.

Debt Service Coverage

The utility's rate covenant requires that rates be sufficient to provide funds 1.5 times the cost of annual revenue bond debt service. Typically, debt service coverage is set to exceed the minimum requirement in order attract capital investment. In 1988, when debt service coverage barely exceeded the minimum requirement, PGW asked for a rate hike that would provide 2.15 times coverage in FY89. The Gas Commission found that margin to be excessive and set the level at 1.8 times debt service.

Capital Spending and Capital Needs

PGW's distribution system constitutes the largest part of the capital plant. The utility maintains nearly 3,000 miles of underground gas mains. Spending on additions and replacements to mains and service pipes in the distribution system accounted for 53 percent of the capital budget in FY1988 and 63 percent of the FY1989 capital budget. Replacement and addition of mostly cast iron mains are proceeding with the use of steel rather than plastic. The non-corrosive nature of natural gas allows mains to last until unnatural conditions (i.e. street reconstructions, repavings, ground erosion) make replacement necessary.

The utility's gas supply is provided primarily by two major pipeline companies, Texas Eastern Transmission Corporation and Transcontinental Gas Pipeline Corporation. PGW produces supplemental supplies in its Liquified Natural Gas (LNG) production plant and its Liquified Petroleum Gas (LPG) plant. In addition, the SNG plant was built to handle an anticipated rise in demand; that demand has not materialized and the plant has gone largely unused since its construction. Future gas supply investments include the replacement of the liquification facilities at the LNG plant.[15]

PGW planned to spend about $50 million between FY87 and FY92 in development of an automatic meter reading system.

Capital spending is partially financed with the proceeds of revenue bond sales. In 1987, PGW issued $100 million in revenue bonds. The growth of long-term debt has been dramatic. At the end of FY88, PGW's long-term debt was $517 million, $20 million less than at the end of FY87, but

15 Stone & Webster, p. II-24.

more than twice the debt ten years before. The utility's 1988 debt to equity ratio was 2.57.

The company also uses internally generated funds (funds generated by net operating revenues) to finance capital spending. Between FY83 and FY86, an average of 23 percent of PGW's capital spending was financed in this manner, indicating a good cash flow.[16] The level of internally generated funds committed to the capital budget increased between FY1987 and FY1989.

The proposed FY90 capital budget is $57 million, and the six year capital program is $374 million (see Table 3). No internally generated funds are projected to be used for the first year of the capital program, in part to compensate for the high and unattained levels of internally generated funds committed to capital in recent years. Approximately $17 million of internally generated funds are projected annually for the later years of the capital program. Over the period, 23 percent of capital needs would be met from internally generated funds and the remainder from capital loans.

Table 3
Projected PGW Capital Expenditures, FY90-FY95
Millions of Dollars

Fiscal Year	Internally Generated Funds	Debt Financing	Total Capital Requirements
1990	0.0	57.5	57.5
1991	18.0	47.5	65.5
1992	17.0	47.5	64.5
1993	17.0	45.2	62.2
1994	17.0	44.6	61.6
1995	17.0	45.7	62.7

Source: PGW FY90 Capital Budget, FY1990-95 Financial Forecast

Annual Payments to the City of Philadelphia

The utility's rate covenant requires annual payments of $18 million to the City of Philadelphia. The payments are not counted as an expense, but as a distribution of equity. Critics of the annual fee contend that the fee is, in

16 Stone & Webster, p. II-56.

effect, a payment in lieu of taxes and therefore, illegal. The city maintains that the fee is an appropriate return on investment.

The annual fee was initiated in 1926, when the city's contract with the United Gas Improvement Company required a payment of $4.2 million. That fee increased to $7.2 million in 1963. When the Philadelphia Facilities Management Corporation took over in 1972, the fee rose to $13.2 million and to $15.5 million in 1974. In 1980, the fee was raised to the current $18 million. The city can request payments in excess of $18 million, as it did in FY86 when an additional $6.5 million was paid to the city.

CHAPTER III
COMPARISONS WITH INVESTOR-OWNED UTILITIES

In order to evaluate the pros and cons of selling the Gas Works, this report compares PGW's financial statistics to those of investor-owned gas utilities. The statistics are not definitive, but provide a general basis for comparison. Specifically, this chapter compares PGW to other utilities in terms of:

- o Typical residential monthly bills
- o Cost of purchased gas
- o Administrative and general costs
- o Distribution costs
- o Customer service costs
- o Delinquencies and write-offs
- o Personnel costs
- o Cost of capital

Sources and Scope of Comparisons

COMP 1

The first comparison (COMP 1) was based largely upon 1987 data contained in the American Gas Association's (AGA) Uniform Statistical Report and on quarterly comparisons of gas rates prepared by the AGA.[17] The comparison examines gas rates and functional areas of expense. Utilities were picked for comparison on the basis of size and proximity to Philadelphia. Inclusion in the comparison required the utility to have operating revenues in excess of $200 million and the majority of its service area:

A) within 90 miles of Philadelphia, or
B) containing one of the largest cities on the Northeastern seaboard.

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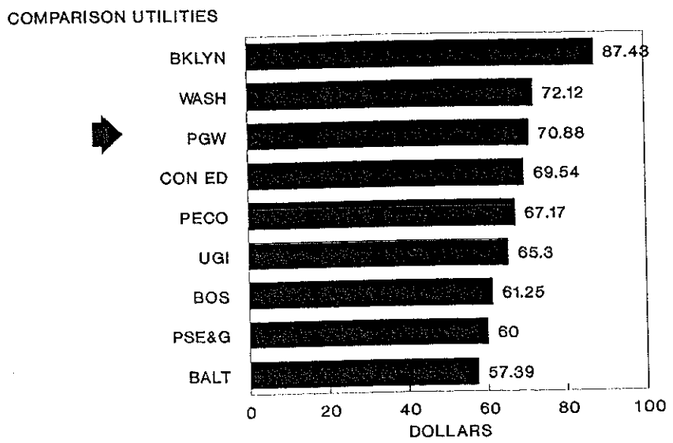
17 All utilities meeting the criteria were included in the comparison except for those that did not release financial information to the AGA. AGA statistics cover the period from January 1, 1987 to December 31, 1987. Because PGW's fiscal year ends August 31, some statistics may not match PGW fiscal year figures. For the purposes of comparison, the AGA data on PGW were used. All measures of average and median do not include PGW figures. Several companies in the comparison, including PGW, PECO and UGI, have changed their gas rates since the end of 1987. These changes are not reflected in the comparison.

Fig. 5: TYPICAL RESIDENTIAL MONTHLY BILL
100 Therms, 1987 Four-quarter Average



The gas utilities included in the comparison are:

1) Baltimore Gas and Electric Co.
2) Boston Gas Co.
3) Brooklyn Union Gas Co.
4) Consolidated Edison Co. of New York
5) Delmarva Power and Light Co.
6) Philadelphia Electric Co.
7) Public Service Electric and Gas Co.
8) UGI Corp.
9) Washington Gas Light Co.

Three of these (Boston, Brooklyn, and Washington) provide gas only; the other six are combined gas and electric utilities. The data used in the comparisons are restricted to gas service only of the combined utilities. It might have been desirable to limit comparisons to gas utilities only; however, this would have made the sample size too small. Where appropriate, the discussion below indicates the findings as limited to the three gas utilities as well as providing figures for the total comparison group of nine utilities.[18]

COMP 2

Analysis of delinquencies and write-offs required a second data source for comparison. COMP 2 uses 1986 data to examine a set of gas utilities serving parts of Pennsylvania. Detailed data on delinquencies and write-offs were obtained from the Pennsylvania Public Utility Commission, Bureau of Consumer Services, 1987 Consumer Services Activity Report. The COMP 2 utilities are:

1) Philadelphia Electric Co. (combined elec. and gas service)[19]
2) Columbia Gas Co. of Pennsylvania
3) Equitable Gas Co.
4) National Fuel
5) Penn Gas and Water Co.
6) Peoples Natural Gas Co.
7) UGI Corp.

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18 When combination utilities are included in the comparison, there may be distortions to the extent that utilities differ in allocation of expenses and staffing of common utility functions (e.g., administration) between gas and electric. However, this problem is minimized by focussing on the average for the group of utilities rather than at the responses of individual ones.

19 Several utilities were "combination distributors," providing gas and electric service. Unless otherwise noted, the data used in the comparisons refer only to gas service.

Fig. 6: COST OF PURCHASED GAS PER MCF
1987

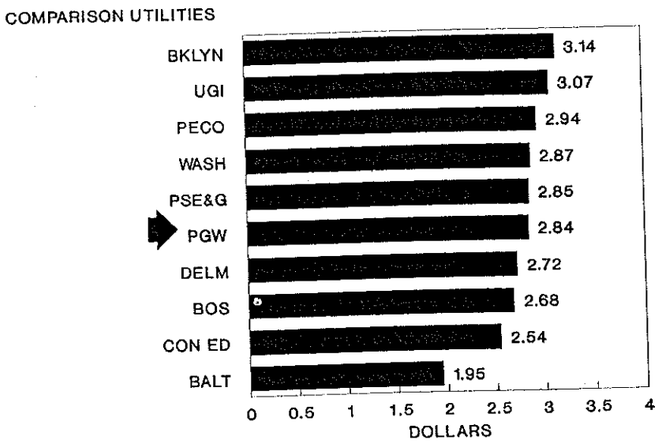
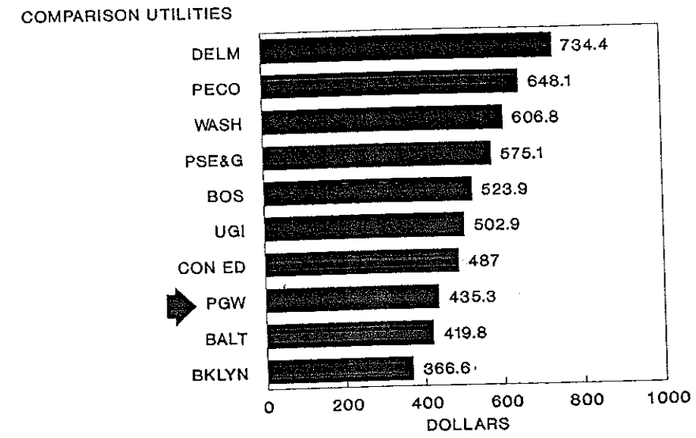


Fig. 7: PURCHASED GAS COST PER CUSTOMER
1987



Typical Residential Monthly Bills

The typical PGW residential customer paid $70.88 per month in 1987 for gas service[20] (see Figure 5), the third highest in the comparison. Among the reporting COMP 1 utilities, only Brooklyn Union and Washington Gas Light customers paid more. Customers of Philadelphia Electric Company (PECO, with the service area closest to PGW's) paid 5 percent less than did PGW customers. The COMP 1 average was $67.52. The average for the three gas-only utilities was $73.60, a statistic highly affected by Brooklyn Union, with typical bills nearly 30 percent above the average of all companies.

In a national context, during the four quarters of 1987, PGW was consistently among the top sixteen utilities in the country in gas rates. In the Mid-Atlantic states (New York, Pennsylvania and New Jersey), customers on the average paid 10 percent less than did PGW customers.

Cost of Purchased Gas

The price that PGW paid suppliers for gas was 3.3 percent higher than the average of the other utilities (see Figure 6). In 1987, PGW paid $2.84 per million therms of gas. The average cost for the other COMP 1 utilities was $2.75 ; the median cost was $2.85. The average of the three gas-only utilities was $2.90.

Analysis of PGW's gas costs on a per customer basis revealed costs on the lower end of the scale. In 1987, PGW paid $435 per customer for gas, third lowest among the COMP 1 utilities (see Figure 7). The average of the three gas-only utilities was $499.

Gas utilities in the comparisons purchased gas from several different gas pipeline companies. It is instructive to compare Pgw's costs of purchases from Texas Eastern or Transcontinental, the two primary suppliers to PGW. All of the utilities, except for Boston Gas, purchased at least some pipeline gas from one or both of these companies. PGW paid $2.78 per M therms to Texas Eastern, 2 percent more than the average, and $4.20 to Transcontinental, almost 13 percent above the average (see Appendix Figure 3).

However, because PGW purchased more than twice as much gas from Texas Eastern as from Transcontinental, PGW's total average pipeline cost did not deviate greatly from the

20 Based on four-quarter average, as shown in Appendix Table 5.

Fig. 8: ADMINISTRATIVE COSTS PER CUST.
1987

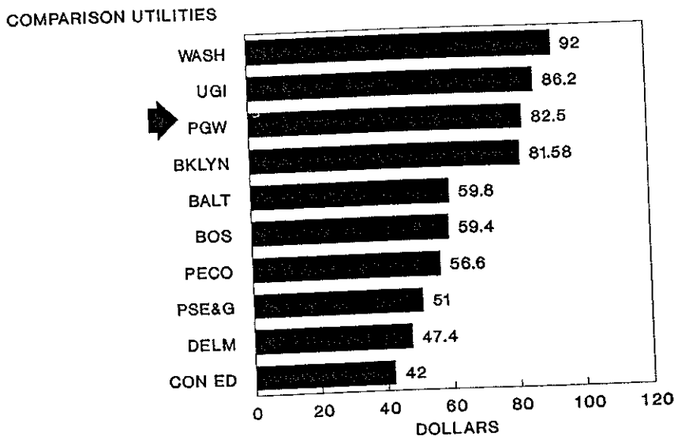
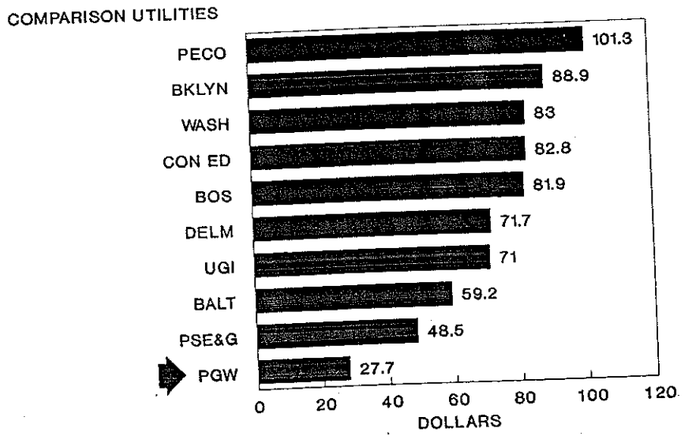


Fig. 9: DISTRIBUTION COSTS PER CUSTOMER
1987



average. Moreover, PGW's cost for spot market gas was below the COMP 1 average.

Should PGW maintain its current pipeline suppliers, and continue to make spot market purchases at reasonable costs, one can expect privatization to affect little change in the cost of gas. At 3.3 percent above the average and one cent below the median, PGW's gas costs cannot be deemed significantly out-of-line with the comparison utilities. Moreover, the two closest Pennsylvania utilities, PECO and UGI, paid more than PGW.

Total Operation and Maintenance, Excluding Gas Purchase/Production

Excluding the cost of gas purchase/production, PGW spent $251 per customer for operations and maintenance in 1987. This was 29 percent higher than the average of $194 of the total comparison group. The average for the three other gas-only utilities was $225; PGW's figure was 12 percent higher.

The AGA report divides the operating and maintenance expenses into several categories; the discussion below examines "administration and general," distribution, and customer accounting/service. The latter includes appropriations for uncollectible expense; the discussion focuses on comparisons excluding such expense, partially on an estimated basis.

Administrative and General Costs

PGW ranked near the top in administrative and general costs (see Figure 8). PGW spent $83 per customer for administrative and general functions, well above the $64 COMP 1 average and third highest in the comparison. The average for the three gas-only utilities was $78, still below PGW, but considerably higher than the average for the combined utilities.

As a functional area of expense, the high administrative costs largely reflect the high cost of personnel. As a proportion of operation and maintenance expenses, PGW's administrative costs were the second highest in the comparison (11.4 percent). This high percentage figure, due in part to PGW's low gas cost percentage, suggests that savings in this area could have a significant impact on rates. Savings in administration costs will be achieved to the extent that personnel costs can be reduced.

Fig. 10: CUST. SERVICE COSTS PER CUST.
1987

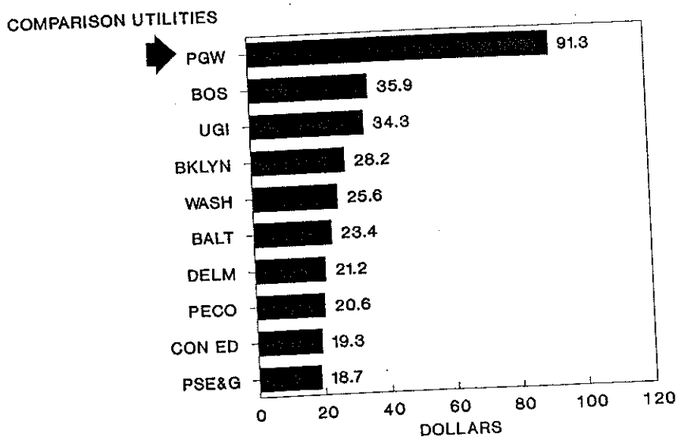
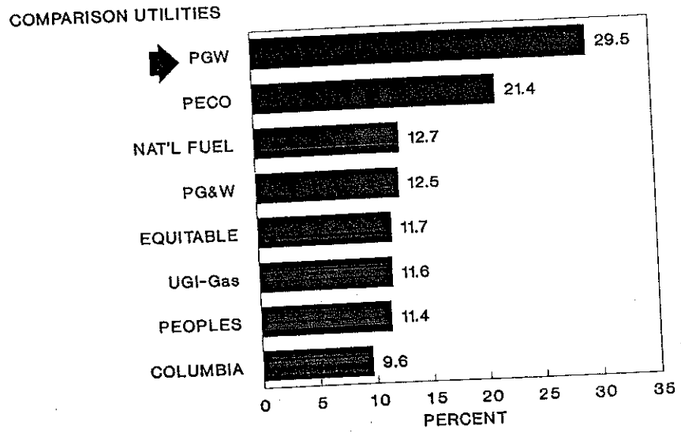


Fig. 11: DELINQUENT CUSTOMERS
AS A PERCENT OF TOTAL CUSTOMERS, 1986



Distribution Costs

PGW spent far less on distribution than did any other COMP 1 utility (see Figure 9). PGW's high density service area may have kept distribution costs down. Serving only 129 square miles, PGW's service area was 1,130 square miles less than the COMP 1 average service area. The Gas Works spent only $28 per customer on distribution, while the average was $77. (The average for the three gas-only utilities was $85.) Even if any savings could be realized in this area, at only 3.8 percent of total operation and maintenance costs, those savings would be inconsequential.

Customer Accounts/Service Costs

In the AGA reports, this category comprises "customer accounts" and "customer information and services" These include such functional areas as customer service, customer relations, customer accounting, meter reading, and collection, plus the appropriation for uncollectible reserve. Since PGW's delinquency level is unusually high (as shown below), it is desirable to subtract the appropriation for uncollectible reserve when making comparisons of customer service costs as distinct from cost of delinquencies and unpaid bills. Comparisons on this basis must be estimated, because precise figures on uncollectible appropriations other than PGW are not available.[21]

PGW's customer service costs were by far the highest in the comparison (see Figure 10). PGW spent $92 per customer in this area, more than three times the estimated COMP 1 average figure of $25. The average for the three gas-only utilities was $30--one third of the PGW spending. The PGW customer service function accounted for 12.6 percent of all operation and maintenance costs, compared to a 3.7 percent COMP 1 average.

PGW has cited increased labor costs and appliance service requests for the high cost of customer service. Labor costs associated with customer activities rose by $4.2

21 PGW's appropriation for uncollectible reserve (FY87 PGW expense of $22.2 million) was subtracted from the AGA figures for this functional category. For other utilities, the amount subtracted as uncollectible was calculated as 2 percent of operating revenues, which is an industry average. An alternative PEL calculation was made subtracting 1 percent of operating revenues. With this alternative, the average for the Comp 1 utilities was $35 per customer for customer service activities--still a much smaller figure than PGW.

million between FY84 and FY88, accounting for 25 percent of the increase in total personnel costs during this period.

Delinquencies and Write-Offs

Since data on delinquencies were not included in the AGA reports, it was necessary to compare PGW with the COMP 2 utilities in order to assess delinquencies and write-offs. Of the eight COMP 2 Pennsylvania utilities, PGW served the highest percentage of delinquent customers (see Figure 11). For 1986, an average of 29 percent of PGW customers were delinquent in their payments; the average of the other seven utilities was less than 13 percent.

It is interesting to note that PECO ranked second to PGW in the delinquent-to-total customer ratio. In COMP 2, PECO statistics reflect both gas and electric service. Because PECO provides electricity to Philadelphia residents, many of PECO's electric customers are PGW gas customers. Presumably, some of PECO's delinquent customers were also PGW's delinquent customers, raising the question of these customers' ability to pay.

However, PGW's percentage of delinquent customers was far above PECO's. The customer repayment plans of the two utilities differ markedly. PECO's repayment program has a forgiveness provision similar to that of PGW's (see Chapter II for details of the PGW plan). However, in contrast to PGW's programs, participation in the primary PECO plan requires proof of an inability to pay and disclosure of the customer's entire financial situation. Thus, less than 5,000 people currently qualify and participate in the program.

In addition, as Chapter II discussed, the Water Department serves most of the same customers but writes off far fewer accounts as uncollectible. While the customers' ability to pay is a factor in delinquency levels, the utilities' ability to collect seems to be more important. In this connection, the Water Department bills primarily owners and not tenants, and has the ability to place liens against the property owner.

The Consumer Services Activity Report, from which the COMP 2 data were derived, measures delinquent accounts on a weighted scale. Weighted arrearages assign measures of significance to delinquent accounts based upon how long they exist, by dividing the average arrearage by the number of average bills.

PGW's weighted arrearage was 6.18, compared to the 2.29 average of the other utilities in the survey (see Appendix Figure 5). This measure indicates that PGW's typical

delinquent account was three times as high as those of other utilities. At the end of FY86, the average PGW delinquent account was $448. The average COMP 2 delinquent account was $146.

Finally, the report looks at accounts written off as uncollectible revenues. The percentage of PGW's gross residential billings written off as uncollectible was 3.9, compared to the 1.8 COMP 2 average.[22] Of course, the amount of write-offs will vary with the utility's policy regarding when an uncollectible account gets written off.

For 1987, at 5 percent of gas revenues, PGW's uncollectible appropriation[23] was far above the 1 to 2 percent that most utilities pay. A reduction in the uncollectible appropriation to 2 percent of gas revenues would have created savings of over $13 million.

Aggravating the uncollectible situation was PGW's heavy dependence on residential customers -- the customer group least likely to pay its bills -- for the bulk of its gas revenues. PGW collected 72 percent of its revenues from residential customers, the second highest percentage of COMP 1 companies, and well above the 57 percent average (see Appendix Figure 7). As discussed in Chapter II, nearly 90 percent of all delinquent accounts are residential or small commercial accounts.

Personnel Costs

PGW's spending on operations and maintenance personnel was high. While PGW's personnel costs per employee were at the average, the number of employees burdened the company with the highest personnel costs of COMP 1 utilities.[24]

On a per customer basis, PGW spent $202 for personnel, more than any other COMP 1 utility (see Figure 12).

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22 This percentage has increased to 4.16 by 1988, reflecting the worsening nature of the delinquency problem. Comparable 1988 data for the other utilities were unavailable.

23 The appropriation for uncollectible reserve is accounted for as an expense rather than a reduction of revenues.

24 Personnel spending calculations were based on operating fund statistics and do not include funds allocated to capital or employees paid through capital funds. It is possible that comparisons among individual utilities may be distorted since utilities may vary in allocating costs between operations and capital expenditures. Therefore, the focus should be on the average of all utilities in comparison with PGW. Another factor involved is the extent to which a utility may contract out, rather than perform a function with its own employees.

Fig. 12: PERSONNEL COSTS PER CUSTOMER
1987

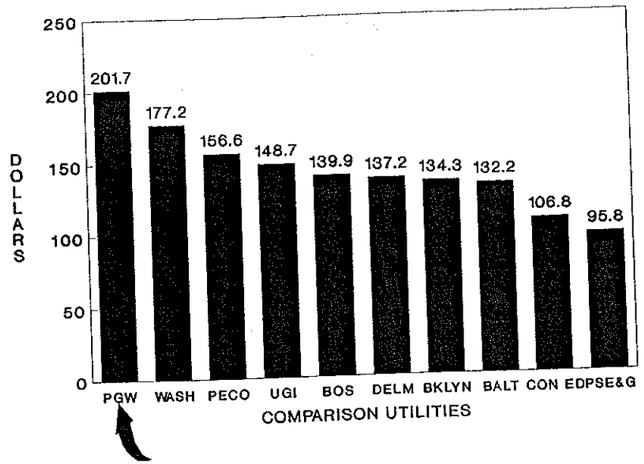


Fig. 13: SALARIES, BENEFITS, & PENSIONS
PER EMPLOYEE, 1987

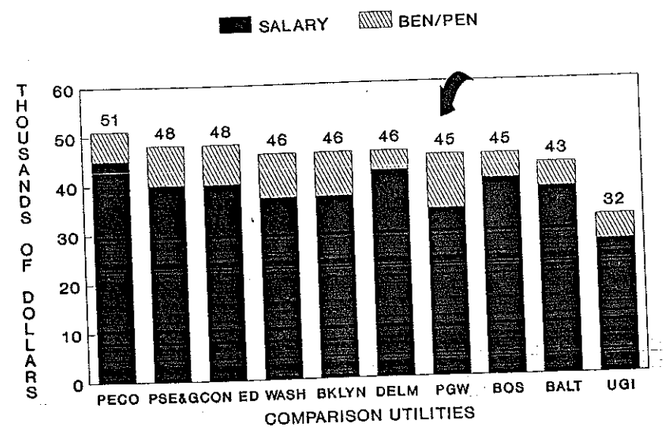


Fig. 14: EMPLOYEES PER GAS SOLD
1987

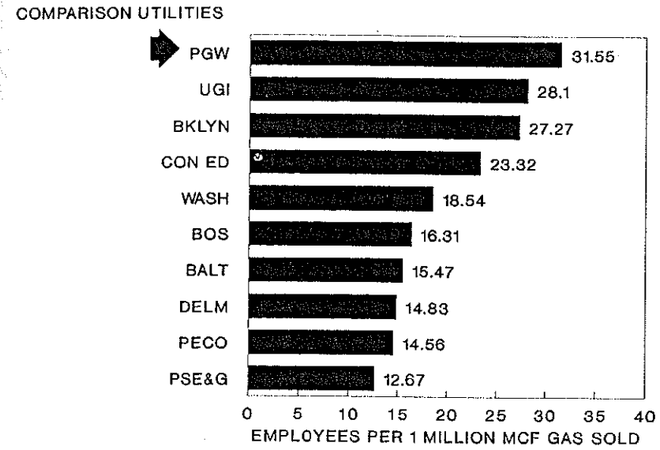
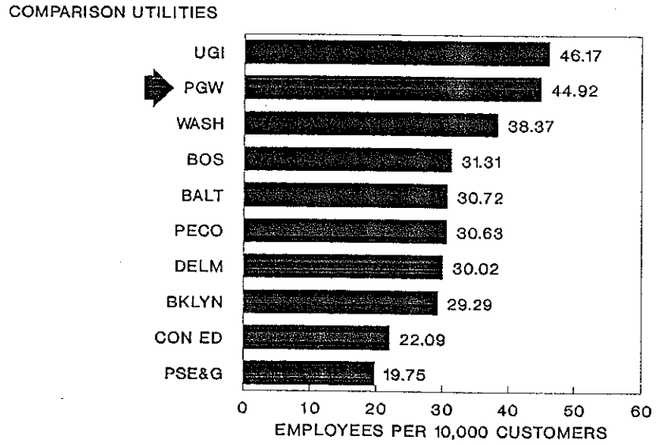


Fig. 15: EMPLOYEES PER CUSTOMER
1987



The average personnel expense per customer was $137. The average for the three gas-only utilities was $151.

PGW spent about $45,000 per employee in 1987, approximating the average spending on salary, benefits and pensions (see Figure 13). At $33,900 per employee, PGW salaries were below the $38,500 average. However, PGW benefits and pensions were above the average; PGW spent $11,200 per employee on benefits and pensions, compared to the $6,500 average.25

The personnel expense was high due to the number of employees. Comparing employment levels to the amount of gas sold and the number of customers illustrates the size of the PGW workforce. For every 1 million Mcf gas sold, PGW had 32 employees, the highest employee to gas ratio of any utility (see Figure 14). The COMP 1 average was 19; the average for the three gas-only utilities was 21.

For every 10,000 customers, PGW had about 45 employees (see Figure 15); the COMP 1 utilities, on the average, had approximately 31 employees per 10,000 customers. The average for the three gas-only utilities was 33.

PGW's personnel costs were 23 percent of total operating revenue, the highest percentage in the comparison (see Appendix Figure 8). The COMP 1 average was 15 percent. The average for the three gas-only utilities was virtually the same.

Should a private PGW reduce personnel levels to an industry average, significant savings would result. Each measure of personnel (cost per customer, employees per gas sold and employees per customers) produces a different average. Reducing the PGW workforce to the average of each measure would have resulted in the following savings:

o Personnel Costs per Customer	$ 34.4 million
o Employees per 1,000 Mcf Gas Sold	$ 42.1 million
o Employees per 10,000 Customers	$ 32.9 million
o Average of the 3 measures	$ 36.5 million

In order to achieve savings of $36.5 million, PGW would have had to eliminate over 800 employees from the 1987 staffing complement, at average salary levels. In response to the October 1988 rate decision, PGW has targetted staffing levels for FY89 which are 10 percent below

25 The amount spent on pensions includes both normal cost and payments toward amortizing past service liabilities. PGW's pension costs include large payments for the latter purpose; information on the other utilities was not obtained.

previously budgeted levels.[26] However, further reductions would be needed to reach the average of the comparison utilities.

While there is no guarantee that a private owner would reduce the number of employees, savings in personnel spending are required if the privately owned utility is to charge lower gas rates. The two major areas of spending -- purchased gas and personnel -- accounted for more than 85 percent of total spending. As discussed earlier in the chapter, gas purchase costs do not differ very much from those of other utilities, leaving the personnel expense as the area in which major savings may be achieved.

Cost of Capital

Comparing the cost of capital of public and private companies is difficult due to the different methods of raising capital.[27] However, the cost of capital is an important element of a company's financial vitality and thus requires analysis. In order to determine the cost for private firms, interest charges were added to common dividends paid. PGW's cost was determined by adding the interest charges to the city fee. The city has justified payment of the $18 million fee on the basis that it represents a fair return on investment. As such, it must be counted as a cost of capital.

PGW's per customer costs were below the $174.7 COMP 1 average, and below the $141.9 median (see Appendix Figure 4)

26 **Official Statement of the City of Philadelphia respecting its $132,520,000 Gas Works Revenue Bonds**, Eleventh Series C, dated January 26, 1989, p. 19.

27 Complicating the comparison was the fact that these statistics were kept on an entire-company basis, not only as they applied to gas service.

CHAPTER IV
THE SALE: PRICE, STRUCTURE, POSSIBLE BUYERS

This chapter will examine the mechanics of a sale: pricing, structuring, and finding a buyer. The city, as the seller, will have to undertake a detailed examination of these issues so as to ensure 1) receipt of the highest possible sales price, and 2) continued level of acceptable gas service to residents.

Sale Price of the Gas Works

A precise estimate of the sale price of the Gas Works would require a detailed evaluation that is outside the scope of this report. A general estimate could be considered from the seller's or the purchaser's perspective. Relevant factors in estimating the sale price include: net book value, bonds outstanding and capitalized earnings.

Net Book Value

PGW's balance sheet provides a figure of net asset value, that is the value of assets in excess of liabilities. The net asset value figures for the past several fiscal years are (in millions of dollars):

1986	$187.4
1987	197.3
1988	200.8

The approximately $200 million book value would relate to price to the extent that: 1) it would be a factor considered by the city in setting a minimum price, and 2) from an investor's point of view, it reflects assets that could be converted into cash upon resale.

In regard to the second factor, the Substitute Natural Gas (SNG) plant is an asset that is not required for the operation of the utility. The prospects of selling the plant are unclear. However, the plant could surely be sold for scrap.

Long-Term Debt Outstanding

A purchaser would have to assume responsibility for the long-term bonded debt outstanding, presumably by providing funds necessary to defease the bonds. At the end of FY88, PGW had approximately $517 million in debt outstanding.

From the city's perspective, a minimum purchase price would include the amount needed to defease the $517 million debt.

Capitalized Earnings

Both the seller (the city) and the purchaser would be less interested in book value than in earnings. Capitalizing earnings is one method of placing valuation upon property. Capitalized earnings are computed by dividing the annual earnings by the interest rate that could be earned on alternative investments. The interest rate would vary with the going rate for the safest investments (such as Treasury Bills), the degree of risk for this investment, and the perceived potential for growth in earnings.

Capitalizing the $18 million annual city fee at 9 percent would produce a $200 million valuation. From the city's point of view, the minimum purchase price would be the capitalized value of the annual payment plus an amount to defease the outstanding long-term debt of PGW. In addition, the city would have to compare price to earnings ratios of similar companies.

From the purchaser's point of view, the capitalized earnings of the private utility would be of paramount importance. PGW's future performance would be judged in part on the basis of its past performance. Chapter II details PGW's past earnings performance. Earnings after payment of the $18 million city fee for the past several fiscal years were (in millions of dollars):

1986	$ -5.4
1987	9.9
1988	3.5

These earnings figures reflect current rate and cost structures. As a private utility, earnings will be higher and financial factors (such as a host of taxes to which a private utility would be subject) will change. Earnings of the private company would depend on rate of return on investor equity as determined by the Pennsylvania Public Utility Commission (PUC). The PUC would most likely allow a return on equity in the range of 11.5 percent to 14.5 percent, as Chapter VI will discuss. Depending on the equity base allowed by the PUC, these percentages yield earnings from approximately $20-to-$29 million. Capitalized at 9 percent, such earnings produce a valuation in the $222 million to $311 million range.

Type of Sale and Possible Purchasers

There are three basic ways of structuring the sale: public offering of securities, leveraged buy-out (LBO), and takeover by an existing company.

Public Offering

The city could choose to sell the utility by a public stock offering. PGW would become an investor-owned utility, as are most other utilities of its size. The problems with this approach are largely in the sale itself: Proceeds from the sale are dependent upon market forces. In addition, the city may not be able to sell all of its shares.

The 1986 $1.88 billion sale of Conrail by the federal government is an instructive example of a public offering of a government-owned asset. The considerations in the Conrail sale reflect the issues that would dominate the debate on selling PGW. These major issues in the Conrail sale were: 1) the amount of money the government could expect to receive from the sale to help offset a budget deficit, and 2) assurances of continued quality service under private ownership. Congress, in allowing the sale to take place, set conditions for the sale that attempted to address the concerns. The provisions required minimum levels of spending on capital improvements and payment of $300 million to the government.

The Conrail example demonstrates that there are steps the city could take in order to enhance proceeds and ensure quality service. However, there are differences in the financial vitality of PGW and Conrail that make the example less than entirely comparable. At the time of the sale, Conrail was a company that had recovered from near bankruptcy and had started earning a profit. Its growth and earnings potential attracted investors. In this respect, PGW probably does not compare.

Another relevant example is the privatization of the British Gas Corporation. The public offering netted nearly $8 billion for the British government. Concerns about regulatory control and continued adequate service and were overcome on a large scale: The company provides gas to about 17 million customers.

Leveraged Buy-out

Another way to structure a sale is by leveraged buy-out. In general, the purchaser in a leveraged buy-out raises capital by borrowing heavily and pledging the firm's assets as collateral. An LBO might involve PGW's top executives as purchasers of the utility. Because a large debt would accompany such a "management buy-out", sufficient cash flow is required.

Typically in an LBO, however, the company must be able to finance the debt in one of two ways. The first is by divesting itself of a large portion of its assets, which

would not be feasible in this case. The other is by demonstrating a potential to finance debt out of operations. Here, lenders will look for a consistent history of financial stability and high growth potential. The improbability of significant future growth and an uncertain earnings power makes the LBO an unlikely option.

Takeover by Existing Companies

Existing companies that might have an interest in acquiring PGW include distribution utilities and the current pipeline suppliers of PGW's gas.

From the city's perspective, selling to an existing distribution company would allow for examination of the company's track record of providing service. From the purchaser's point of view, the acquisition of PGW could provide an opportunity to expand its service area while achieving some economies of scale in combining aspects of PGW service with its existing service.

The purchaser, be it a distributor or a pipeline company, might benefit by the formation of a holding company that would make the private PGW a subsidiary. Such a structuring would insulate the parent company from the PUC's regulatory decisions to which PGW would be subject.

The city would have to determine the interest of existing companies in purchasing the Gas Works. If a buyer could be found, a takeover would be the most desirable option: The city would know what to expect in terms of service and reliability, financial soundness could be more easily evaluated, economies of scale could be achieved and rates could be expected to fall.

Guidelines

In devising guidelines for the bidding process, the city will have to determine the qualifications of a suitable bidder. Theoretically, the city could sell to the highest bidder. However, the city would serve its own interests and the interests of gas customers by requiring that the potential purchaser possess a set of minimum qualifications. If the bidder is a utility, those qualifications could include:

- o financial stability
- o history of reasonable rates
- o fair repayment plans in place
- o history of meeting demand for gas
- o good customer service history

As Chapter VI will discuss, private ownership will bring down rates only if certain conditions are met and

actions taken, including reductions in operational costs. The contract could include provisions that the purchaser fulfill those conditions.

CHAPTER V
PLACING THE SALE PROCEEDS

A decision to sell the Gas Works will necessarily include a decision about how to use the funds derived from the sale. The city will be faced with several options; each will have repercussions. This chapter will explore some of these options and their attendant benefits and disadvantages. Because PGW is an aberration as a large municipally owned utility, there are no similar-type sales that the city can look to as examples. Sales of municipally owned utilities that have taken place have involved utilities serving small towns.

As Chapter IV discussed, the city can expect to receive at least $200 million from the sale. The buyer would have to produce at least $700 million, including more than $500 million to defease outstanding debt.

This chapter will describe five "places" to put the sale proceeds:

- o general fund
- o outstanding debt/debt service/capital improvements
- o pension fund
- o fund to continue PGW "social" services
- o mechanism to combine two or more of the above options

General Fund

The City of Philadelphia's financial forecast indicates potential budget problems over the next several years. The mayor and the Council had to make hard program choices in developing the FY90 budget without the $70 million tax increase originally called for in the mayor's five-year fiscal strategy.

Sale of the Gas Works might (depending on the use of the proceeds) reduce general fund revenues by $18 million, the amount of the annual payment by PGW. Still, some observers have seen the sale of PGW, and the subsequent placement of the proceeds in the general fund, as a "quick fix" to the fiscal difficulties and a way to avoid tough budgetary choices. A $200 million cash infusion would permit program expansion without a tax increase for several years.

The major concern about such a maneuver is that it could harm the city's long-term financial standing and ability to borrow. The rating agencies have historically frowned upon "one-time fixes" as methods of dealing with continuing fiscal problems. Because the maneuver supplies

no permanent revenue source, it will probably be viewed as irresponsible fiscal management. The city's credit rating may suffer as a result.[28]

The city has already demonstrated a willingness to put proceeds from asset sales into its general fund. As part of an effort to offset the loss of federal revenue sharing, the city sold the City Hall Annex in FY88 and placed the $16 million proceeds into the FY89 general fund. Moreover, the FY90 budget includes $12.5 million from asset sales involving the Municipal Services Building. However, the scale of these transactions was not on par with a possible PGW sale.

Outstanding Debt/Debt Service/Capital Improvements

The city's ability to finance capital improvements through bonded general obligation debt has been severely constrained during the past decade due to a restrictive debt limit. Although the city has turned to authorities as an alternative means of issuing debt, there are vast capital needs without adequate mechanisms for funding them. In fact, the city's capital budget appropriations have fallen 68 percent between FY77 and FY87.[29]

Under the current debt limit, the city can finance $40 million in tax-supported debt annually. In FY87, the city used 94 percent of its debt capacity. The debt limit is not likely to increase in the foreseeable future. If the proceeds from the sale of the Gas Works were used to retire a portion of long-term debt, the city's ability to finance further capital projects would be greatly enhanced. For example, had a $200 million windfall been used to retire debt in FY87, the margin to assume further debt would have increased from 6 to 31 percent of debt capacity.

Another option is to use the proceeds to retire debt, without issuing further debt. Although this option would not serve immediate capital needs, it would reduce debt service by up to $30 million initially, depending on the maturity and interest rate of the bonds retired. Achieving such savings in the current fiscal year would more than compensate for the loss of the $18 million city fee.

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28 Interview with Mr. Hyman Grossman, Standard and Poors, November, 1988.

29 **Philadelphia's Debt Limit: A Restraint on Debt or an Obstacle to Growth?**, Pennsylvania Economy League, Report 531, p. ix.

Another way to accomplish similar goals is to put the proceeds directly into the capital improvement fund. A $200 million deposit into the capital fund would substitute for tax-supported financing of the fund for about 5 years.

Pension Fund

Placing the proceeds into the pension fund would reduce a huge unfunded liability that has been growing at a rapid rate. At the end of FY88, unfunded pension liability stood at $1.7 billion. This represents a growth of over 60 percent since FY84. Investing $200 million in the pension fund would raise the fund's net assets from $1.4 to $1.6 billion, while reducing the unfunded pension liability by the same margin. The one-time decrease in the pension fund liability would have continuing benefits to the city by the interest earned on pension fund investments.

The annual amortized payments to reduce the unfunded liability has put a strain on the operating fund. The city paid $88.5 million in amortized accrued liability in FY88, an amount that exceeded normal pension costs. The interest earned on investment of the proceeds in the pension fund would be used to reduce the annual amortized payments. Assuming a 9 percent interest rate, the amount of this reduction would offset the loss of the $18 million city fee.

Fund to Continue PGW "Social" Services

The social benefits that the city provides to gas customers are among the supposed advantages of municipal ownership. Social programs such as the senior citizen discount, the limited service program, and the host of payment programs, benefit selected segments of customers, even if they now exist at the expense of other customers.

All or part of the sale proceeds could be placed in an interest-bearing account created for the purpose of funding the continued existence of these programs. Such funds have been established in connection with sales of municipally owned hospitals to the private sector.[30] The primary problem with the funds is that they expire at some point, leaving the hospitals -- and patients -- without services they have come to expect. Unless the interest would be sufficient to pay for the continuance of the Gas Works' social programs, the principal would have to be used, subjecting the fund to eventual expiration. Even if all of the proceeds were used to establish a fund, the expected $18 million in interest would barely be enough to cover the

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30 "Takeovers by For-Profit Firms Noted; Poor Seen to be at Risk", Los Angeles Times, July 21, 1985, sec. V, p. 1.

costs of the senior citizen discount, which amounted to $14.4 million in FY88.

Although mandating continuance of these type of programs would infringe upon the management prerogatives of the purchaser, it could be made a condition of the sale. Because the programs would affect earnings of the new company, the nature and structure of the programs could be negotiated as part of the purchase deal. If this option were pursued, the buyer and the seller would have to determine which programs are worth continuing and what changes in the programs are warranted.

Mechanism to Fund Several Needs

The proceeds could be used to combine aspects of some of the aforementioned options. With the city's concerns focused on budget gaps, placement of the proceeds would almost certainly have to provide a substitute for the $18 million fee. If there are remaining monies (in either principal or interest), they could be used to fill at least one of the other needs: capital expenditure, reduction of debt, reduction of pension costs, and continuance of social programs.

There are precedents for the use of such mechanisms. Between 1965 and 1970, the Dayton Power and Light Company acquired several small, municipally owned utilities in Ohio. The prices for the utilities ranged from $5 to $12 million. Although these utilities served towns a fraction of the size of Philadelphia, the examples are instructive.

Most of the towns placed the proceeds in interest-bearing accounts. The interest was used in various ways. The City of Troy, for example, put 75 percent of the interest into its general fund and used the remaining amount to reduce outstanding debt. The City of Bellefontaine, on the other hand, placed all of the interest in its capital fund.

Given the size of Philadelphia's long and short-term fiscal difficulties, the proceeds from the sale of PGW cannot be expected to fill many needs. In deciding where to place the proceeds, city officials will have to choose between filling pressing, immediate needs, and providing the basis for long-term fiscal objectives.

CHAPTER VI
CONSEQUENCES OF SELLING PGW

A sale of the Gas Works would affect a wide range of people and interests:

- o the "average" customer's gas bill could decline,
- o specific customer groups such as senior citizens would most likely lose some payment and program considerations they currently receive,
- o local and state government revenues would change,
- o local politicians would lose a degree of control over rates and social policy,
- o the number of PGW employees could decline.

City officials will be forced to weigh these interests against each other when making the decision on selling the Gas Works. While this study will not explore the political implications of the sale, examination of the consequences requires discussion of the issues that will form the basis of the debate. These issues fall into two broad categories:

- o Consequences for customers in terms of rates, social programs and payment policies,
- o Financial consequences for the city and state.

Consequences for Customers

Financial Basis for Rates under Private Ownership

In order to maintain current rates and make a fair return, the privately owned PGW would have to raise additional revenues or lower expenses by $44 to $58 million. Elimination of the $18 million city fee, additional taxes, higher interest costs, and higher net earnings are certainties under private ownership. Two scenarios for an FY88 transition to private ownership are as follows (rounded, in millions of dollars):

	Low Earnings Scenario	High Earnings Scenario
Increased earnings	16.4	25.1
Increased taxes	32.7	38.4
Increased interest cost	12.9	12.9
Eliminated City fee	-18.0	-18.0
Net Difference	44.0	58.4

The $44 million to $58 million "difference" may be made up through less spending, rather than revenue increases which would require rate hikes. Spending reductions of $84 to $110 per customer would offset the difference. The COMP 1 utilities examined in Chapter III spent an average of $701 per customer on operation and maintenance, compared to the $724 per customer that PGW spent (see Table 4). Therefore, a reduction to average per customer spending levels would offset 21 to 27 percent of the difference.

However, a private PGW could expect to save more than $23 per customer by spending less than the COMP 1 average. There is no reason to assume that the cost areas in which PGW currently spends less would increase under private ownership. For example, PGW spends $34 less per customer than do the other utilities for gas purchase/production. These lower costs should remain under private ownership as would distribution costs that are $48 less per customer (see Table 4). Reducing the remaining functional costs to the average level, produces savings of $105 per customer, an amount that would lower gas rates under the low earnings scenario.

At $65 per customer above the average, the cost of personnel accounted for a large part of PGW's higher level of expense. Reducing only personnel costs to the COMP1 average would provide a significant portion of the expenditure reductions needed to result in lower gas rates.

A model was developed to examine the effect that specific cost savings possible under private ownership would have on rates. Using variables and fixed factors, the model compares FY88 rates under municipal ownership to what rates would have been under private ownership.

Method for Projecting Rates

Two of the variables are based on possible incentives of private ownership, and two are based on a new regulatory environment. The "ownership" variables relate to personnel costs and uncollectible accounts. The "regulatory" variables are rate of return and rate base. It was also assumed that a private PGW would have to pay higher interest costs on the some $500 million on outstanding debt that would be assumed or defeased. Finally, a set of state, local, and federal taxes were applied to the model, as discussed in more detail in the "financial consequences" section of this chapter.

The fixed factors are the addition of $14.4 million to revenues by the elimination of the senior citizens discount and $5 million savings by eliminating the gas appliance program. These "social" programs would surely be discontinued or modified by a privately owned utility.

Table 4
Comparison of Per Customer Operation and Maintenance Costs
1987

	PGW	COMP 1 Utilities	PGW Above (Below) Avg.
By Function:			
Gas Production/ Purchase	$ 473	$ 507	$ -34
Administration	83	64	19
Distribution	28	76	-48
Customer Service	91	25	66
Other	49	29	20
Total Operating & Maint. Costs	724	701	23
By Object of Expense:			
Personnel	202	137	65
Gas Production/ Purchase	473	507	-34
Other	49	57	-8
Total Operating & Maint. Costs	$ 724	$ 701	$ 23

Unless otherwise noted, the term "rates" refers to AGA statistics on typical monthly bills for residential customers for the first quarter of 1988. Rate projections rely upon 1987 and 1988 data supplied by PGW. PGW's 1988 data are estimates.

Ownership Variables

The personnel variable assumes that the private Gas Works will reduce personnel costs by up to $36.5 million, the COMP 1 average, as discussed in Chapter III.

The other ownership variable assumes that the private Gas Works will reduce the uncollectible account expense by up to $16.5 million (from the original $25.8 million estimated by PGW for 1988). Such a reduction brings the uncollectible expense closer to the industry average as percentage of gross revenues. However, reduction of uncollectibles is affected by the customers' ability to pay

and the elimination of some social service programs including the senior citizens discount.

No other ownership variables are used because of the relative efficiency of PGW operations in areas such as purchase of gas and distribution. No assumption is made that a privately owned firm would, by definition, operate more efficiently. The two ownership variables -- personnel and uncollectibles -- simply reflect areas where a private PGW *could* make improvements.

Regulatory Variables

As a privately owned utility, PGW would be regulated by the Pennsylvania Public Utility Commission (PUC), rather than the Philadelphia Gas Commission. The PUC, like the Gas Commission, is composed of five members and is charged with protecting the public interest by the maintenance of reasonable rates for utility service.[31]

The PUC regulates rates by allowing the utility a fair return on equity. Determination of "fair" is on a case by case basis. The PUC sets rate of return to "cover legitimate operating expenses and at the same time not result in an excessive return...."[32] This imprecise method of determining rate of return necessitated an examination of the COMP 1 utilities' rates of return (see Appendix Figure 9). The likely range of rates of return are reflected by the following variable options:

- o 11.5 percent
- o 14.5 percent

The equity base upon which return is determined is also subject to a PUC finding. The regulatory law clearly states that the rate base must include only the "fair value of property of the utility used and useful in public service...".[33] The Substitute Natural Gas Plant that has not been in service since its construction would probably not be included in the rate base. PGW officials have testified that the depreciated cost of the SNG plant is around $24 million. While current equity may not equal the rate base as PUC would define it, there is no basis to assume inclusion or exclusion of other items. The options for this variable are:

- o Base equal to 1987 equity ($197.3 million)
- o Base equal to 1987 equity minus $24 million for SNG plant ($173.3 million).

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31 66 Pa. C.S.A. Secs. 301-319.
2 66 Pa. C.S.A. Sec. 1309.
33 66 Pa. C.S.A. Sec. 1309.

Projected Rates

A privately owned PGW could have lower gas rates (see Figure 16) under the "best" scenario. PGW's typical residential monthly bill is $67.47, based on AGA statistics for the first quarter of 1988. In other scenarios with significant personnel savings and low earnings, there will be reductions in average gas rates. In these scenarios, the revenue production and/or expense reduction achieved by the variable and fixed factors offset the $44 to $58 million "difference" immediately created by private ownership.

Under the best scenario, personnel costs are lowered by $36.5 million, the uncollectible account expense is reduced by $16.5 million, the rate of return is 11.5 percent and the rate base does not include the cost of the SNG plant. If these conditions were met, average rates would drop by 6.0 percent, to $63.39. Under the worst case scenario, no savings in personnel or uncollectibles are realized, and the highest rate base and rate of return are granted by the PUC. The rate in this case would be $73.07, or 8.3 percent higher than the present rate. The median variable combination puts rates at $68.23, 1.1 percent higher than the present rate.

Calculations for the low rate scenario are shown in the model in Table 5. The same model with high rate variables is shown in Table 6.

Table 7 (below) exhibits the interplay of the three variables (PUC-regulated earnings levels, personnel savings, and uncollectible accounts savings) on the typical monthly gas bill under privatization.

Table 5
Model for Rate Projection of Privately-Owned PGW.
Low Rate Scenario, Thousands of Dollars

	Current Ownership (FY88)	Changes Private Ownership	Private Ownership (Projected)
Operating Revenues	469,567		441,201
Other Income	15,940		15,940
Subtotal	485,507		457,141
Operating Expense Changes			
Senior Citizens Discount		(14,400)	
Gas Appliance Program		(5,000)	
Personnel Savings		(36,500)	
Unc. Accounts Savings		(16,470)	
Taxes:			
Local Real Estate		150	
Corp. Net Income		1,694	
Purta		2,000	
Capital Stock		1,875	
Federal Income		6,201	
Gross Receipts		20,771	
Total Taxes		32,691 *	
Total Changes		(39,679)	
Operating Expenses	415,411		375,732
Other Expenses	48,575	12,900	61,475
Subtotal	463,986		437,207
Net Earnings	21,521 *		19,934
Typical Residential Monthly Bill (Dollars)	67.47		63.39

NOTES:
* Before city fee of $18 million.

Table 6
Model for Rate Projection of Privately-Owned PGW.
High Rate Scenario, Thousands of Dollars

	Current Ownership (FY88)	Changes Private Ownership	Private Ownership (Projected)
Operating Revenues	469,567		508,528
Other Income	15,940		15,940
Subtotal	485,507		524,468
Operating Expense Changes			
Senior Citizens Discount		(14,400)	
Gas Appliance Program		(5,000)	
Personnel Savings		0	
Unc. Accounts Savings		0	
Taxes:			
Local Real Estate		150	
Corp. Net Income		2,432	
Purta		2,000	
Capital Stock		1,875	
Federal Income		8,902	
Gross Receipts		23,009	
Total Taxes		38,368	
Total Changes		18,968	
Operating Expenses	415,411		434,379
Other Expenses	48,575	12,900	61,475
Subtotal	463,986		495,854
Net Earnings	21,521 *		28,614
Typical Residential Monthly Bill (Dollars)	67.47		73.07

NOTES:
* Before city fee of $18 million.

Fig. 16: RATE PROJECTIONS
FOR PRIVATE PGW, All Variables, FY88

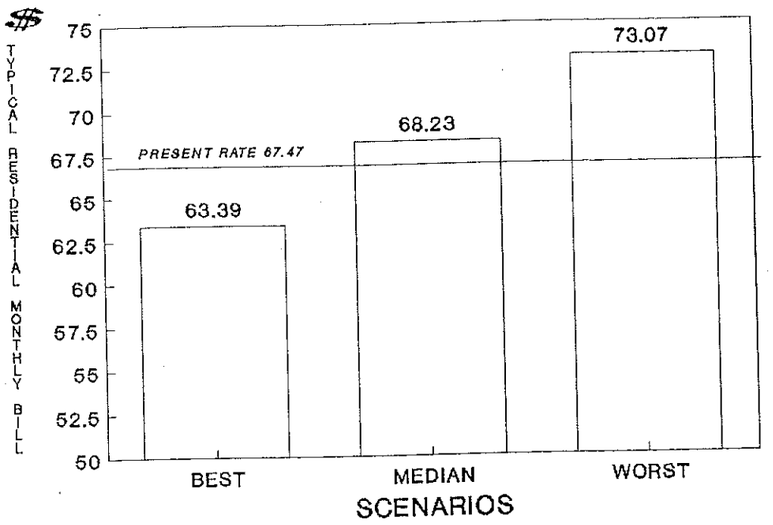


Fig.17: RATE PROJECTIONS FOR PRIVATE PGW
If Personnel Spending Not Reduced, 1987

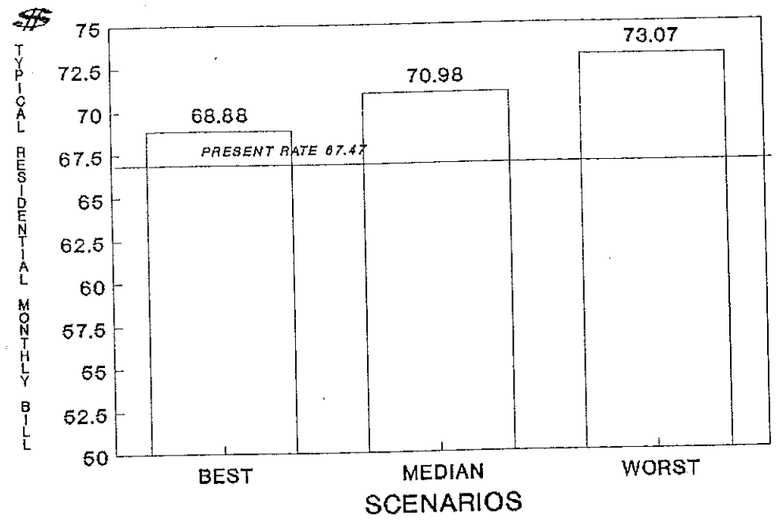
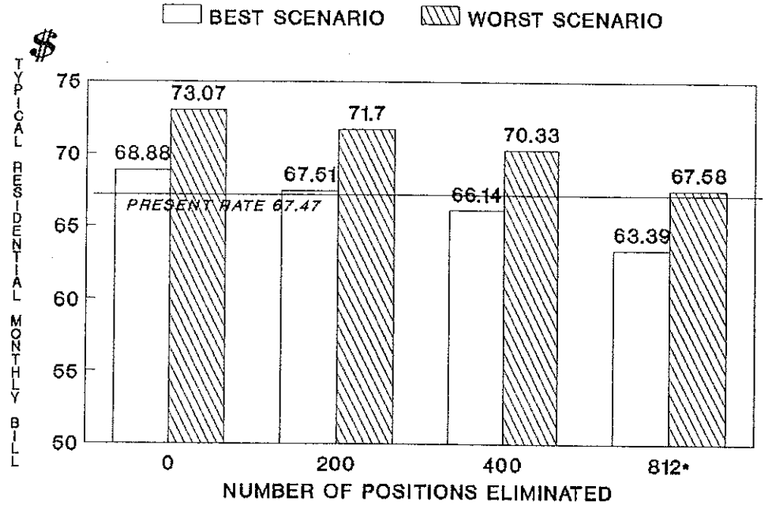
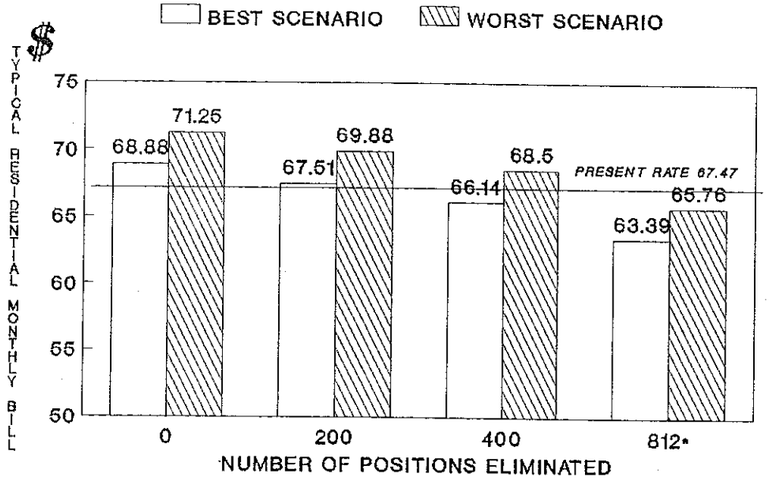


Fig.18: RATE PROJECTIONS FOR PRIVATE PGW
If Employee Level Reduced FY88



* Reduced to COMP 1 Avg.

Fig.19: RATE PROJECTIONS FOR PRIVATE PGW
If Employee Level Reduced and Regulatory Variables Favorable, FY88



* Reduced to COMP 1 Avg.

Table 7
Effect of Three Variables on Typical Monthly Private PGW Bill. (Dollars per Month)

Number of Personnel Eliminated	Low Earnings		High Earnings	
	Uncollectibles		Uncollectibles	
	Reduced	Not Reduced	Reduced	Not Reduced
0	68.88	71.25	70.70	73.07
200	67.51	69.88	69.33	71.70
400	66.14	68.50	67.96	70.33
812	63.39	65.76	65.22	67.58

The variable of personnel expenditure is the most important because it can reduce operating costs more than any other variable. A private PGW's ability to effect those variables under its control--personnel spending and collection of previously uncollectible accounts--is critical if gas rates are to be reduced through privatization. If these two variables are reduced to the COMP1 average, rates could be reduced by as much as 6.0 percent to $63.39, but no less than 3.3 percent, to $65.22. A private PGW could insure rate reductions, regardless of PUC regulatory decisions, with sufficient savings in these critical areas.

If personnel costs were not reduced, gas rates could not be reduced under any scenario (see Figure 17). Depending on reductions in uncollectibles and PUC earnings ceilings, rates could rise as little as 2.1 percent to $68.88 or as much as 8.3 percent to $73.07.

Figure 18 illustrates the effect of a workforce reduction on rates by the number of positions (at average salary and benefit levels) eliminated. If 200 positions were eliminated, rates could rise as little as 0.1 percent to $67.51 or as much as 6.3 percent to $71.70. If 400 positions were cut, rates would be reduced by 2.0 percent to $66.14 or rise 4.2 percent to $70.33. If 812 positions were eliminated (bringing PGW personnel costs down to the COMP 1 average), rates would fall by as much as 6.0 percent to $63.39 or rise very slightly by 0.2 percent to $67.58. If more than 814 positions were eliminated, rates would not rise, no matter how the other variables performed.

Figure 19 shows the likely effect on gas rates of reduced expenses for uncollectible accounts and personnel, assuming that regulatory variables are favorable.

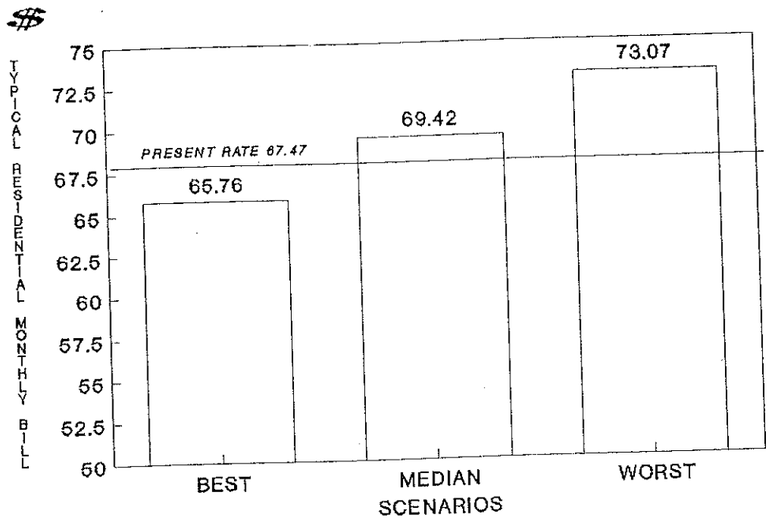
If the uncollectible account expense did not change, rates could still fall by 2.5 percent (see Figure 20). The

median change, controlling for the uncollectible expense, is a 2.9 percent increase.

A Hidden Tax

In addition to lower rates, ratepayers would benefit by the elimination of the city fee. Because the $18 million fee goes to the city's general fund, it in effect places an additional tax on ratepayers which is not deductible from federal taxes. As Chapter V explained, prudent placement of the proceeds would preclude the need for a replacement tax for the city fee. However, even if a replacement tax were imposed, that tax would be deductible and hundreds of thousands of dollars that are leaving the city in tax payments to the federal government would remain in the city.

Fig.20: RATE PROJECTIONS FOR PRIVATE PGW
If Uncollectible Account Expense
Not Reduced, FY88



Social Policy and Repayment Programs Under Private PGW

A private PGW would not be responsible for continuing several of the social programs and policies now in force. How the elimination of some of these programs will affect revenues is unclear. Increased revenues could be expected by the elimination of the senior citizens discount program. However, elimination or restructuring of the several payment plans will not necessarily affect savings. The payment plans (see Chapter II for description) are designed to increase revenue collections, though how these programs actually affect revenues is open to dispute.

The senior citizens discount program accounted for about $14.4 million in revenues. The almost certain elimination of this program by a privately owned Gas Works may be a political obstacle to a sale. Savings could also be achieved by elimination of PGW's contribution to the Utility Emergency Services Fund (UESF), but such savings would have a negligible effect on rates.

It is impossible to predict which service programs would be maintained by a private owner. The approximately 50,000 PGW customers who currently participate in the federal government's Low Income Home Energy Assistance Program (LIHEAP) would continue to receive funds.

The "five and two" payment program, which assists customers in paying bills and settling arrearages, could be restructured or eliminated by a private owner. A detailed cost/benefit analysis of the program would have to be conducted in order to determine the program's future. Certainly, even reduced gas rates under a private Gas Works would be high enough to require some type of PGW-sponsored payment assistance program.

Financial Consequences for the City and State

This section examines the financial consequences of a sale from the viewpoints of the City of Philadelphia, the Commonwealth of Pennsylvania and PGW. This section focuses only on the *continuing* financial consequences of a sale. The consequences of the use of the sale proceeds can be found in Chapter V.

In effect, the continuing financial consequences are the elimination of the $18 million city fee and the subjecting of PGW to an array of local, state, and federal taxes. Even counting the city fee as a tax burden, PGW's current burden falls far below that of other utilities (see Appendix Figure 10). Under private ownership, this burden would increase.

Because the long-term finances of a private PGW cannot be accurately projected, this section again uses the 1988 fiscal year as a basis. Tax revenue projections were made for each tax that would be imposed on PGW. Credits, deductions and deferrals were not calculated, so the results stand only as rough estimates.

The City of Philadelphia

The greatest benefit for the city would be the windfall from the proceeds of a sale. On a continuing, yearly basis, the city would incur a loss by the elimination of the fee, if the proceeds were not placed judiciously.

Table 8
Private PGW's Effect on Government Revenues, FY88
Millions of Dollars

Government:	Low Estimate	High Estimate
LOCAL		
City Fee	$ -18.0	$ -18.0
New Taxes	.2	.2
Purta Rebate	.5	.5
Net Change	-17.4	-17.4
STATE		
New Taxes	26.3	29.3
Purta Rebate	-.5	-.5
Net Change	25.8	28.8
FEDERAL		
New Taxes	6.2	8.9
Net Change	6.2	8.9

If PGW were privately owned in FY88, the city would have lost more than $17 million in operating revenues, assuming no mechanism was created to replace the city fee (see Table 8). By law, the Gas Works would be exempt from the business privilege tax.[34] In addition, only the portion of PGW property classified as "non-operating property" would be subject to the local real estate tax.[35] Collections on

34 Philadelphia Code of Ordinances, Section 19-2601 (2).
35 The real estate values can only be estimated. The actual taxing of these properties would require an assessment that is beyond the scope of this report. However, examination of PECO and UGI's realty tax base have allowed a reasonable estimate of the revenue the tax would raise from PGW.

this tax would probably be less than $150,000, depending on what is deemed taxable.

The only other tax monies the city could expect to receive would be the result of a rebate on the state public utility realty tax (PURTA). This rebate distributes a portion of the state collections to local government based on the proportion of their tax revenues to all tax revenues in the commonwealth.[36] The rebate would most likely be about $500,000. The loss of the fee, and the gains from the real estate tax and the PURTA rebate would result in a net loss to the city's general fund of more than $17.3 million, if the proceeds of the sale were not used to generate continuing savings (or revenues) for the city.

The Commonwealth of Pennsylvania

PGW would be subject to four major taxes levied by the state:

- o Utilities gross receipts
- o Corporate net income
- o Public utility realty
- o Capital stock

The gross receipts tax would impose the greatest incidence on a private PGW. With a rate of 4.4 percent on gross receipts, this tax would yield anywhere from $20.8 million to $23.0 million depending on where PGW is in terms of uncollectible accounts, personnel reduction, rate base and rate of return.[37] By comparison, the other three state taxes are minor.

The corporate net income tax imposes an 8.5 percent levy on net income. Applying this rate to PGW's projected net income produces tax revenues from $1.7 million to $2.4 million.

The public utility realty tax applies to all those properties not taxed by the city. The tax exempts easements and certain types of machinery and equipment. It defines taxable value as "the cost of utility realty, less reserves for depreciation or depletion as shown by the books of account of the utility."[38] The nature of the tax and the scope of this study prevent a calculation of the revenues it

36 State-Local Taxation of Public Utilities in Pennsylvania, Pennsylvania Economy League, January 1982, p. 7
37 These four factors are the variables described in the section on the method for determining rates. Because these factors will also affect operating revenues, the rate model was employed here.
38 72 Pa. C.S.A. Sec. 8108-A.

would produce.[39] However, a reasonable expectation would have the tax raise $1.5 million to $2 million.

Table 9
Taxes on a Private PGW, FY88
Millions of Dollars

	Low Estimate	High Estimate
LOCAL		
Real Estate	$ .2	.2
Total Local	.2	.2
STATE		
Gross Receipts	20.8	23.0
Corp. Net Income	1.7	2.4
Purta	2.0	2.0
Capital Stock	1.9	1.9
Total State	26.3	29.3
FEDERAL		
Corp. Income	6.2	8.9
Total Federal	6.2	8.9
TOTAL	32.7	38.4

Finally, PGW would be subject to a capital stock tax of 9.5 mills. Using PGW's 1987 equity figure as a base, this tax would raise approximately $1.9 million.

The sale of PGW would produce $26 million to $29 million in new tax revenues for the state (see Table 9).

The Federal Government

The federal government would also be entitled to a portion of PGW revenue through the federal income tax. A 34 percent corporate income tax rate would take $6 to $9 million in 1988 (see Table 9).

39 The real estate values can only be estimated. The actual taxing of these properties would require an assessment that is beyond the scope of this report. However, examination of PECO and UGI's realty tax base have allowed a reasonable estimate of the revenue the tax would raise from PGW.

Financial Position of a Privately owned PGW

As a municipally owned utility, PGW currently retains far less money than it would as a private firm. PUC regulations would protect the utility's financial position as well as the ratepayer's interests. The rate of return regulated by PUC only limits that return; it does not guarantee it. Nevertheless, allowance of gas rates to achieve a set return in a mature service area such as Philadelphia, virtually assures those earnings. Thus, a private PGW's financial position would be well protected. The privately owned utility's earnings would rise by $16 million to $25 million (from $3.5 million), even if rates went down.

A private PGW's new tax burden would be $33 to $38 million (see Table 9).

CHAPTER VII
CONCLUSIONS AND RECOMMENDATIONS

PEL's examination of the Philadelphia Gas Works reveals that the utility faces problems that are not readily solvable in its present environment. Despite a relatively sound financial position, delinquencies are high and revenues are artificially low due to city-imposed social and repayment programs. Personnel costs are extremely high due to the number of PGW employees. Such problems have kept rates high, compared to investor-owned utilities.

Because no other major city owns a gas utility, the city should have to justify why PGW is municipally owned. Privately owned gas utilities offer lower rates to users.

The elements of a private PGW's revenues and expenses would differ from the municipally owned PGW's. Rates, however, could be lower. The private PGW would be subject to more than $30 million in new taxes. However, it would save by the elimination of the senior citizen discount, the gas appliance program and the annual payment to the city. In addition, the private PGW would have the incentive to reduce the personnel and uncollectible account expenses which could lower rates.

There is nothing specific to PGW's service area that would preclude operational savings in the functions in which PGW spends more than other utilities. Between FY83 and FY85, PGW demonstrated that the number of delinquent customers and associated costs could be reduced with certain collections and repayment programs.

A privately owned PGW would be regulated by the Pennsylvania Public Utility Commission rather than the Philadelphia Gas Commission. Under PUC regulation, the privately owned utility's retained earnings would be higher than current earnings. PUC regulations also provide for programs to deal with needy delinquent customers.

If PGW would have been private in 1988, PGW would have paid the Commonwealth of Pennsylvania $26 million to $29 million in new tax revenues. The City of Philadelphia could expect at least $200 million in proceeds from the sale, and depending on the placement of the proceeds, no net loss to the general fund.

Recommendations

1. The city should seek to sell the Philadelphia Gas Works.

In setting conditions for the sale, the city should specify that average gas rates be reduced. If PGW were sold, improved operational efficiency and lower gas rates for most customers could result. Other results of a sale may include the elimination of the senior citizens discount, and stricter qualifications for participation in repayment and forgiveness plans. Gas service to the truly needy should not be affected.

The city should seek to sell PGW to an existing utility or pipeline company. In the bidding process, the city should consider the potential buyer's qualifications in terms of a sound financial base and proven track record.

2. The city should use the proceeds to retire outstanding debt or finance capital improvements.

The city should not use proceeds from the sale as a "quick fix" to fill budget gaps. Such a maneuver would only serve to harm Philadelphia's credit rating and ability to borrow.

Using the proceeds to retire outstanding debt would allow the city to expand restricted debt capacity, issue new debt and fund needed capital improvements. The city's pressing capital needs can be partially funded by the proceeds from a sale.

If the outstanding debt is retired without being replaced, annual debt service could be reduced. The amount of the reduction would depend on the maturity and interest rates of the bonds retired. Initially, the annual reduction could be in the $20 million to $30 million range.

Another alternative, discussed earlier, worthy of considerations is using the sale proceeds to reduce the unfunded past service liability of the pension fund.

3. The city should negotiate a deal with the state whereby a portion of the revenues from the gross receipts tax is returned to the city.

By selling the Gas Works, the city will make the state an unintended beneficiary of a private utility's taxes. The state stands to collect $21 million to $23 million from the 4.4 percent gross receipts tax, and $26 million to $29 million in overall taxes. The city should negotiate a deal with the state so that each benefits from new tax monies.

The deal could have the state provide the city with an annual general support grant to be paid from a portion of the new revenues.

4. If the city does not or cannot sell the utility, it should use its power over PGW's budget to reduce personnel costs which will lower rates.

PGW's personnel costs in 1987 were found to be excessive as compared to the average of investor-owned utilities, whether comparisons are made with all nine private utilities or limited to the three gas-only utilities. For fiscal year 1989, in response to the denial of a rate increase, PGW reduced its personnel complement. However, further substantial reductions would still be required for PGW's personnel costs to reach the average of the private utilities in the comparison. There seems to be no inherent reason that personnel costs would be higher under municipal ownership. Personnel reductions might require changes to the level of services provided by PGW, involving, for example, elimination of free routine service calls, reducing frequency of meter reading (or contracting for the service), and elimination of the appliance sales program.

5. If the city does not or cannot sell the utility, it should reduce rates by eliminating and revising certain "social" and repayment programs.

The senior citizen discount program means that rates of other customers are increased to make up for the $14 million per year not collected from senior citizens. Senior citizen status is the only requirement for eligibility. Because there is no means test, the program gives equal benefits to rich and poor alike. According to the latest census data, only 17 percent of Philadelphia's senior citizens have incomes below the poverty level, while 21 percent of non-senior citizens have incomes below the poverty level.

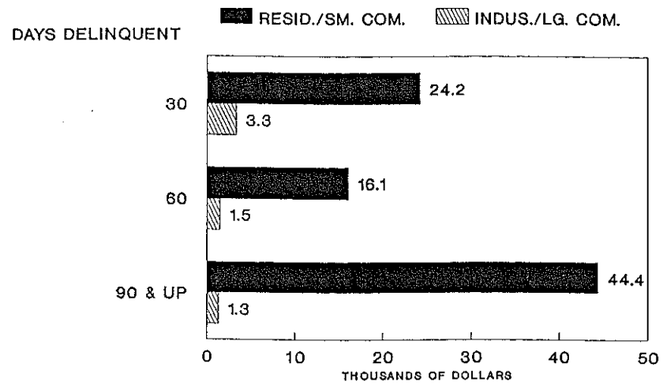
By having an age test instead of a means test, the program is inherently inequitable. For example, senior citizens with the ability to pay are in effect subsidized by younger people who may have a lesser ability to pay. The program is an example of poor public policy and should be eliminated.

PGW's repayment programs allow more than sufficient assistance to those unable to pay their bills. Senior citizens who have difficulty meeting their monthly payments can and should qualify for financial assistance.

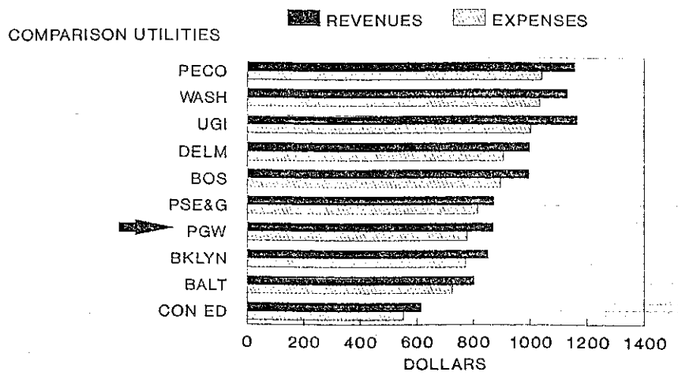
based upon a means test. Participants in the program should have to prove an inability to pay their gas bills. Such a means test is a standard provision in repayment plans of other utilities, including the Philadelphia Electric Company. The truly needy would continue to receive gas service and financial assistance.

APPENDIX

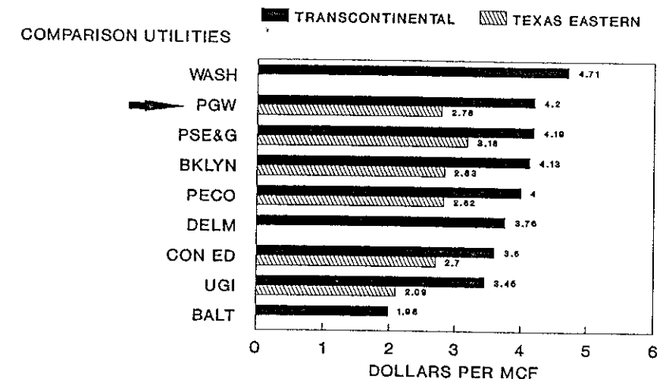
Appendix Fig. 1: PGW DELINQUENT ACCOUNTS
BY CUSTOMER TYPE AND DAYS DELINQUENT
August 30, 1987



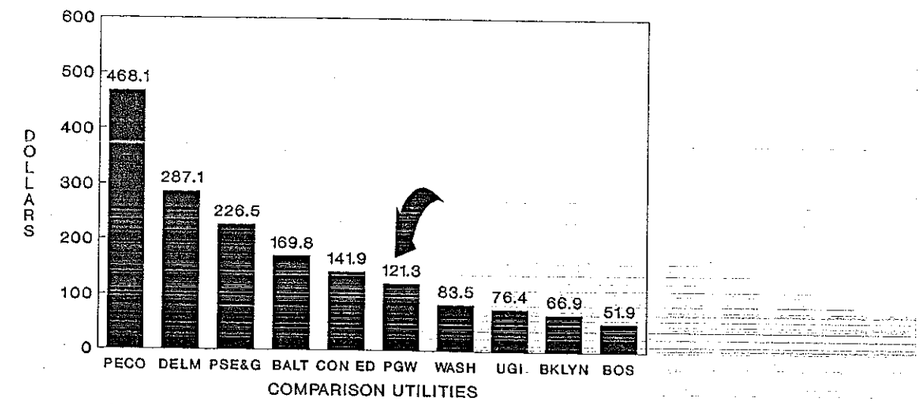
Appendix Fig. 2:
OPERATING REVENUES & EXPENSES PER CUST.
1987



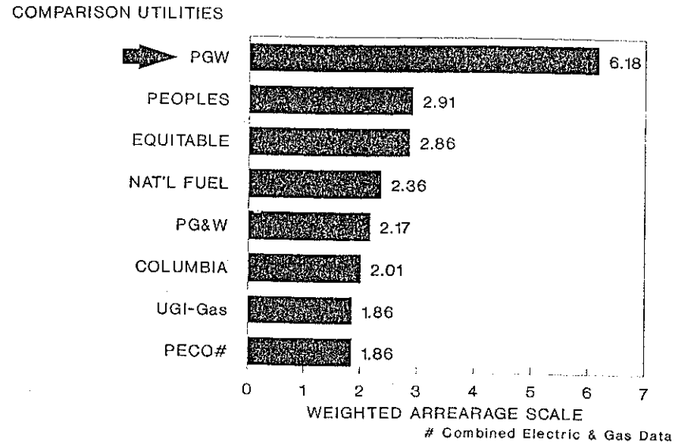
Appendix Figure 3:
COST OF GAS PURCHASED
FROM PIPELINE SUPPLIERS, 1987



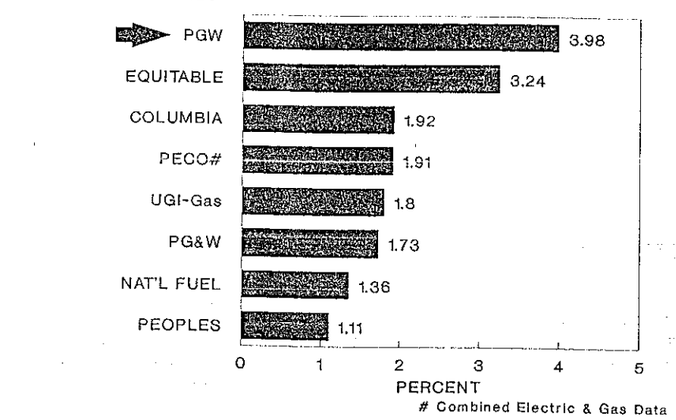
Appendix Fig. 4:
COST OF CAPITAL PER CUSTOMER
1987



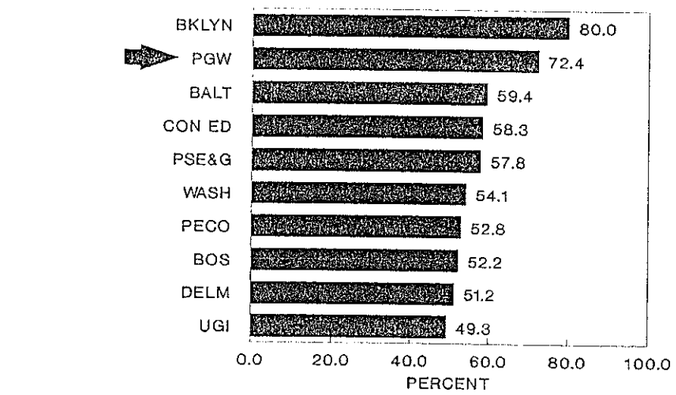
Appendix Fig. 5:
WEIGHTED ARREARAGE
1986



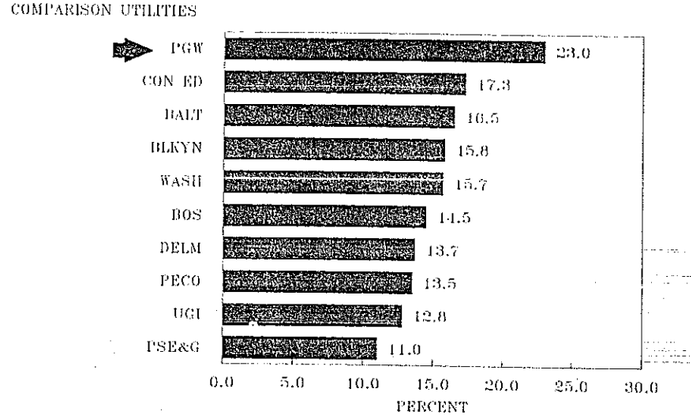
Appendix Fig. 6:
WRITE-OFFS AS A PERCENT
GROSS RESIDENTIAL BILLINGS, 1986



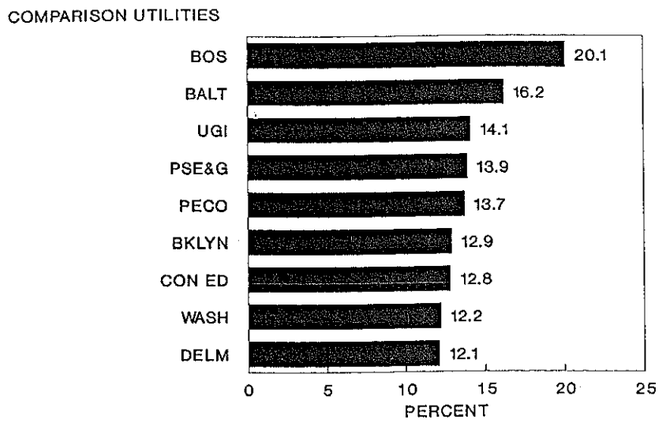
Appendix Fig. 7:
REVENUES FROM RESIDENTIAL CUSTOMERS
AS A PERCENT OF TOTAL GAS REVENUES, 1987



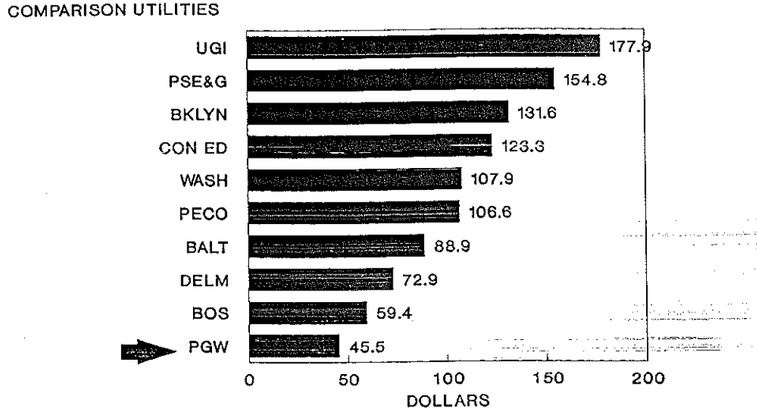
Appendix Fig. 8:
PERSONNEL COSTS
AS A PERCENT OF OPERATING REVENUES, 1987



Appendix Fig. 9:
RETURN ON AVERAGE COMMON EQUITY
All Operations, 1987



Appendix Fig. 10:
TAXES AND FEES PER CUSTOMER
1987



Appendix Table 1
Number of Customers by Customer Class

Year	Resid.	Change (percent)	C & I	Change (percent)	Total	Change (percent)
1975	518,929		22,285		541,216	
1980	516,683	-0.43	20,409	-8.42	537,094	-0.76
1984	500,338	-3.16	18,529	-9.21	518,869	-3.39
1985	500,378	0.01	18,617	0.47	518,997	0.02
1986	499,608	-0.15	19,004	2.08	518,614	-0.07
1987	496,836	-0.55	19,210	1.08	516,046	-0.50
1988	505,623	1.77	20,276	5.55	525,901	1.91
1989	507,761	0.42	22,669	11.80	530,432	0.86
1990	508,073	0.06	23,662	4.38	531,737	0.25
1991	508,413	0.07	24,458	3.36	532,873	0.21
1992	509,065	0.13	25,174	2.93	534,241	0.26

* Denotes commercial and industrial customers.

Sources:
1975-1980 data from PGW Annual Reports.
1984-1987 data from Philadelphia Gas Works.
1988-1992 projections derived from customer billing information;
Stone & Webster Management Consultants Report, May 1987, p. II-44.

Appendix Table 2
Gas Revenues by Customer Class, FY84-88, Thousands of Dollars

Year	Resid.	Change (percent)	C & I*	Change (percent)	Total	Change (percent)
1984	344,048		129,234		500,057	
1985	341,768	-0.66	122,634	-5.11	489,419	-2.13
1986	336,718	-1.48	111,998	-8.67	473,703	-3.21
1987	329,562	-2.13	98,825	-11.76	452,431	-4.49
1988	332,028	0.75	103,816	5.05	457,971	1.22

* Denotes commercial and industrial customers.

Sources:
1984-1987 data from PGW Annual Reports.
1984-1986 data breakdown by customer class from Bond Prospectus,
June 26, 1987, p. 18.

Appendix Table 3
Delinquent Accounts

Millions of Dollars

Customer Class	At End of Fiscal Year 1983	1984	1985	1986	1987
Residential & Small Commercial	35.2	40.9	35.1	44.4	42.1
Industrial & Large Commercial	6.0	2.9	2.9	3.9	4.7
Final Billing*	8.3	7.8	6.5	12.4	12.3
Total	49.5	51.6	44.5	60.7	59.1

Annual Percentage Change

Customer Class	At End of Fiscal Year 1984	1985	1986	1987
Residential & Small Commercial	16.2	-14.2	26.5	-5.2
Industrial & Large Commercial	-51.7	0.0	34.5	20.5
Final Billing*	-6.0	-16.7	90.8	-0.8
Total	4.2	-13.8	36.4	-2.6

* Service on these accounts has been terminated.

Source: Philadelphia Gas Works

Appendix Table 4
Income and Earnings, FY 1984-88

Millions of Dollars

	Fiscal Year 1984	1985	1986	1987	1988
Operating Income	73.9	50.7	47.7	59.8	54.2
Net Income	50.8	25.8	19.1	27.9	21.5
City Fee	18.0	18.0	18.0	18.0	18.0
Net Earnings	32.8	-0.7	-5.4	9.9	3.5
City Equity	193.4	192.7	187.3	197.2	200.7

Annual Percentage Change

	Fiscal Year 1985	1986	1987	1988	1984-1988
Operating Income	-31.4%	-5.9%	25.4%	-9.4%	-26.7%
Net Income	-49.2%	-26.0%	46.1%	-22.9%	-57.7%
City Fee	0.0%	0.0%	0.0%	0.0%	0.0%
Net Earnings	-102.1%	-671.4%	283.3%	-64.6%	-89.3%
City Equity	-0.4%	-2.8%	5.3%	1.8%	3.8%

Source: PGW Annual Reports

Appendix Table 5
Typical Residential Monthly Bill Comparison, 4th Quarter 1986-1st Quarter 1988

Company	1986 Dec.	1987 March	1987 June	1987 Sept.	1987 Dec.	1988 March
	(Dollars)					
Philadelphia Gas Works	64.73	72.01	72.01	72.01	67.47	67.47
Brooklyn Union Gas Co.	80.31	91.77	87.37	N/A	83.15	85.79
Washington Gas Light Co.	57.53	83.41	63.43	70.08	71.57	72.02
Consolidated Edison Co.	74.22	75.68	N/A	68.81	64.14	68.15
Philadelphia Electric Co.	67.30	N/A	67.20	67.14	N/A	61.98
UGI Corporation	69.52	N/A	69.56	69.45	56.89	57.45
Boston Gas Co.	82.48	64.34	63.16	54.19	63.29	N/A
Public Service Electric & Gas	61.00	N/A	61.00	61.00	58.00	58.00
Baltimore Gas & Electric Co.	65.04	65.19	58.04	53.43	52.89	53.57
	(Index, 100=PGW)					
Philadelphia Gas Works	100.00	100.00	100.00	100.00	100.00	100.00
Brooklyn Union Gas Co.	124.07	127.44	121.33	-	123.24	127.15
Washington Gas Light Co.	88.88	115.83	88.08	97.32	106.08	106.74
Consolidated Edison Co.	114.66	105.10	-	95.56	95.06	101.01
Philadelphia Electric Co.	103.97	-	93.32	93.24	-	91.86
UGI Corporation	107.40	-	96.60	96.44	84.32	85.15
Boston Gas Co.	127.42	89.35	87.71	75.25	93.80	-
Public Service Electric & Gas	94.24	-	84.71	84.71	85.96	85.96
Baltimore Gas & Electric Co.	100.48	90.53	80.60	74.20	78.39	79.40

Source: AGA Typical Monthly Bill Comparison