CHAPTER XI

Information Technology

A. BACKGROUND

In today's competitive environment, it is essential that utilities develop and maintain effective information systems. To be competitive, utilities need sophisticated customer information and billing systems as well as work management and financial management systems. The rapid rate of change in the industry requires that new systems be far more flexible than previous systems, both in terms of the functionality of the systems and the platforms on which they operate.

Many utilities, in efforts to improve service and reduce costs, are engaged in programs to consolidate or centralize service and support activities such as customer call and service centers and maintenance and distribution centers. Much of this is made possible by increased use of both computerized information systems and sophisticated data systems networking. While there are substantial benefits to be realized from this strategy, the risk is that users at the operating level and also the utilities' customers are increasingly dependent on this technology and on the abilities of the systems' architects and developers.

PGW's information technology (IT) department is managed by the Vice President - Information, who is the Chief Information Officer (CIO). This vice president reports to PGW's interim CEO. The department has 45 employees and 24 contractors as of September 2000, compared to a budgeted staff level of 55 employees. PGW's IT department spent approximately $12.5 million during fiscal year 2000.

The department operates 14 Unix based Hewlett Packard client servers, approximately three dozen Novell/NT servers, and an IBM 9672 mainframe computer. The major PGW computer applications include five that run on UNIX client servers: BCCS (billing, collection and customer service); Mobile; FAMIS (financial asset management information system); MAPS (material and accounts payable system), and GMS (gas management system). In addition, the payroll and human resources system and the transportation system still run on the IBM mainframe computer.

PGW has recently formed a project management office (PMO) which is responsible for bringing BCCS up to an acceptable state of operability after a difficult year-long and much publicized implementation effort. The PMO is staffed with a team of users and IT people.

PGW has also formed an IT steering committee which is chaired by a non-employee, who is a retired Unisys executive and long-time Philadelphia resident. The initial purpose of the steering committee was to oversee and add focus to fixing BCCS. Now, with the formation of the PMO, the steering committee has begun addressing other IT issues.

B. RFP OBJECTIVES

In this task area, we addressed the following objectives which were identified in the PUC's RFP:

- Review PGW's information technology function to determine, among other things, the following:
  - The degree of responsiveness to user needs;
  - The reasonableness of project backlogs;
  - The adequacy of short- and long-term systems planning efforts;
  - The effectiveness of methods used to identify, prioritize, acquire/develop, and implement new technology and applications;
  - The adequacy of training and technical support available to both users and Department employees; and
  - The existence of adequate data/physical security measures and disaster recovery plans.
- Reflect findings with regard to the new customer information/billing, gas management/mobile dispatch, and financial reporting systems. (See Chapters VIII, IX and X.)

Our review of the information technology function focused on PGW's efforts to implement up-to-date systems and the quality of IT support provided for functional departments throughout PGW. We specifically addressed the efforts PGW has made to implement its BCCS, GMS, Mobile, and FAMIS systems.

C. EVALUATIVE CRITERIA

In conducting the review of the information technology function, we used a number of specific criteria to assess whether the information services provided are adequate for the current and future needs of PGW and whether the information technology department is effective in meeting the needs of other departments.

- Are the long-term priorities and major activities of the IT function relevant to the key issues which face PGW's operations, and does it support PGW's strategies?
- Are PGW management and key users adequately involved in the IT planning process and in managing the development of new systems where appropriate?
- Are the costs and benefits of existing and new systems adequately measured and compared to appropriate alternatives?

- Is the IT organization appropriate, efficient and appropriately staffed?
- Are effective programs in place to monitor and improve productivity within the IT function.
- Are efficient systems development and project management techniques in place and effectively used?
- Does a sound program for IT training exist for both technical and user personnel at all levels?
- Is disaster recovery planning carried out seriously?
- Is security given a high priority? Do effective policies and procedures governing access to the use of critical and/or confidential data exist?

D. WORK STEPS

To complete the review in this area, we performed the following tasks:

- Identified the major strategic business issues facing PGW and determined the degree to which the IT function is providing the necessary technologies and value-added information to make these strategies successful.
- Determined if or to what extent an effective linkage exists between the processes for business planning and IT planning. Reviewed and assessed PGW's IT plan.
- Determined the cost effectiveness and quality of the service delivered by the IT function to its user community. Determined if users are receiving the data processing and systems support they need.
- Assessed PGW's ability to develop applications on time and within budget.
- Assessed the reasonableness of project backlogs.
- Assessed the effectiveness of methods used to identify, prioritize, acquire/develop, and implement new technology and applications.
- Assessed PGW's portfolio of application systems for operational stability, ease of maintenance, and ease and cost of operation.
- Determined if appropriate decision factors guide the development of new systems and if adequate management attention is devoted to questions of custom-developed versus vendor-developed (package) software acquisition.
- Identified and assessed the process by which users are brought into the development process for new systems and into the overall management process for delivering ongoing computing and systems support.

- Reviewed the adequacy of training and technical support available to both users and IT employees.

- Reviewed technical staff capabilities and levels, including their competence in and knowledge of IT, project management and control, and PGW's business objectives and strategies.

- Determined if the IT function has adequately planned for the impact of a major disaster on the computer systems and services supporting operations.

- Evaluated the adequacy of the data security program and the risk of exposure to unauthorized access or tampering.

E. FINDINGS AND CONCLUSIONS

1. PGW lacks a clear long-term IT strategy.

    - PGW's long-term strategy for IT is not clearly defined. The IT plan is out-of-date and is reflective of neither current problems and issues nor of the needs of the current management team. It is difficult to define an IT strategy until PGW's overall goals, priorities, and strategies are defined more clearly, and until PGW has demonstrated that it can manage the IT function effectively.

    - While there are operational issues which IT should note and build on or rectify, the primary challenge for IT will be to define a long-term strategy that meshes with the long-term business needs of PGW and supports PGW's overall strategy.

    - PGW does not have a formal process for preparing an IT strategic plan, which should be prepared in coordination with PGW's overall strategic plan. (See Chapter III-Corporate Planning.) The process should be annual and should be integrated with budget development. The process should include the following steps:

        - Preliminary discussions with functional department heads to discuss and understand their strategic goals, objectives and action plans

        - Discussions with other utilities to identify the types of initiatives that are being pursued in the industry

        - Discussions within IT to identify technological issues that should be considered

- Discussions with primary systems users to identify major opportunities for improvement of existing systems and ideas for new or enhanced systems

- Review with top PGW management

- Review with the IT steering committee

- Documentation of the plan and development of a summary that can be distributed within PGW

- Meetings with appropriate users to communicate and discuss the plan.

2. The IT steering committee is a valuable management tool for PGW and should be strengthened.

   - A steering committee was formed in 1999 to oversee the corrective actions that were necessary for BCCS. The committee has two outsiders, one of whom chairs the committee. This chairman is a former Unisys executive who was also formerly on the PGC. The second outsider on the committee is a consultant with experience in Philadelphia city government. Additional members include the interim CFO and several other members of top management. This committee has focused management's attention on prioritizing the work to be done to solve BCCS problems.

   - The committee should be chaired by a PGW executive and include the CEO and CFO. The CIO should be a member and also act as staff to the committee.

   - Hopefully, the present chairman, who is not a PGW employee, will remain a member of the committee. It is also appropriate that the other outsider continue to serve on the committee.

   - The steering committee is focusing on daily crises and not on longer-term issues. It should review the IT planning process and approve IT strategies. It should also review and approve business cases for major new projects and monitor their development and implementation.

3. The disastrous implementation of BCCS in July 1999, which resulted in significant cost overruns, loss of integrity of customer records, and poor customer service, was primarily due to insufficient planning and preparation for the massive change in technology which was taking place.

   - As indicated in Exhibit **XI-1**, when complete, the BCCS project will cost about three and one-half times its original budget. PGW's original budget of $9.7 million was within the range of industry estimates, that is, $8 million to $50 million, for a new customer information system.

Exhibit XI-1

BCCS Budget and Costs
($ millions)

Item	Capital	Expense	Totals
Actual Costs:			
1998	$ 8.0		$ 8.0
1999	13.1	$ 1.3	14.4
2000	2.2	7.5	9.7
Total	$ 23.3	$ 8.8	$ 32.1
Costs to Complete: 2001	0.5	0.8	1.3
Total Costs	**$ 23.8**	**$ 9.6**	**$ 33.4**
Original Budget	9.7		9.7
Amount Over Budget	**$ 14.1**	**$ 9.6**	**$ 23.7**

Source: DR 2.6.0010

- Implementation of BCCS was based on an underlying decision that was not properly thought out. When PGW made the decision to implement BCCS, it, in fact, was making an implicit decision to change all of its IT systems from a traditional mainframe to a client-server environment. While there are advantages to this new model, PGW undertook this massive change without sufficient attention on the time this would take, the disruption it would cause, and the costs that would be incurred.

- The costs identified in Exhibit XI-1 are only the direct costs related to the development and installation of BCCS. They do not include the extra costs incurred by the call center and other customer affairs department personnel to process customer complaints caused by the bad conversion to BCCS. They also do not reflect the savings that PGW would have experienced if it had converted to the new system successfully. These lost savings include improved cash flow due to better collections and reduced staffing in the customer affairs department, both of which savings are directly related to having more timely and accurate customer information.

- PGW drastically underestimated the time, resources, and cost that would be required by switching its most critical database, that is, customer data, from a mainframe to a client-server environment. Since the new customer

database for BCCS was to be on a client server, all of the older systems which had previously relied on the mainframe customer information database had to be switched to a client-server mode in order to efficiently access the customer data which they required. Thus, it was necessary to implement a new Mobile system even though the previous DXT system was functioning effectively. Similarly, it was also necessary to implement FAMIS and MAPS, because the previous systems were not compatible with the new client server customer database.

- PGW did not adequately anticipate several other requirements prompted by this fundamental change in technical strategy. BCCS training is an example: user training was inadequately planned and funded. Insufficient attention was devoted to technical training for IT personnel, most of whom had little or no prior experience in a client server environment. PGW also underestimated the time and effort which would be required by users to develop the specifications and to test the new systems. There was no separate test system developed for BCCS and programming changes had to be checked out on live data, with resultant crashes on the system. There was insufficient "cleansing" of the base data that was brought over from the old mainframe system to the new BCCS database, and this caused many problems.

4. The involvement of key users in the initiation and development of major IT systems is inconsistent, and adversely affects those systems where there is insufficient involvement.

   - Some of the IT systems which PGW has developed over the past two years have had excellent user involvement. The implementation of those systems which have had this involvement have proven more successful than those which have not. Development and implementation of the Mobile system, for example, had very good user involvement and its implementation was quite successful. User involvement in BCCS, on the other hand, was erratic and several key users were, in fact, pulled off the project in the middle of the critical implementation period. Moreover, heavy user involvement was more important for BCCS than for Mobile, because BCCS spanned several functional departments, whereas Mobile essentially affects only operations.

   - The Mobile system had the strong endorsement and participation of the senior vice president of operations. In the case of BCCS, the functions of the system spanned several departments including finance, customer affairs, marketing, and supply services, and the heads of these departments varied in their interest and participation in the effort. As a result, critical decisions had to be made by the former Chief Operating Officer (COO) or by lower level users who were involved in the project. Some decisions were not made at the proper level and some were not made at all.

5. The BCCS project was poorly planned and managed.

- BCCS, which was implemented in July 1999, is a client-server application utilizing an Oracle database which houses all necessary customer information. The system encompasses customer billing, service order entry, collection activity, marketing, customer contact recording, and all other processes having to do with the customer. The system interfaces with most of the other major PGW systems, including FAMIS, MAPS, GMS, and the Mobile system.

- Development of BCCS was overly influenced by the desire to implement new technology, rather than by business needs. In 1995, PGW came to the conclusion that in order to compete under deregulation it would be necessary to develop a new customer information system. The original decision was that this would be a mainframe system, a technology familiar to PGW. However, after the project was started, the decision was made to change the approach to a client-server environment. The system platform was changed in mid-stream primarily because the CIO at the time wanted a client-server approach. This shift to a totally different platform had a massive effect on the underlying system architecture, on the type of skills needed, on the cost, on the schedule, and on the way the resultant system operated.

- Insufficient attention was devoted to changing underlying business practices. BCCS itself spans the so-called "end-to-end" billing and customer service process, yet the PGW organization remained the same. Overall business-user leadership resided in the hands of a COO who was unfamiliar with many of the difficulties and challenges affecting change within PGW and did not address the organizational boundaries and rivalries that existed.

- Inadequate attention was given to the fact that a move to a client-server based billing system necessitated changing several other major systems which depended on it for their base data. PGW had insufficient IT and user resources available to implement all of these successfully at the same time. These systems were on the mainframe, but their base data was now to be on a client-server and thus these systems had to be completely retrofitted. Thus, at least two other major projects were spawned, including MAPS and Mobile. In addition, GMS was also being developed at the same time.

- There was no adequate overall plan for the BCCS project, nor was there a capacity plan which projected the effect of BCCS on PGW's computing resources. There was no anticipation of the fact that some of the BCCS reports would take 50 or 60 hours to assemble, calculate and print. The project was given a cost-cap to work under, rather than a carefully derived estimate, and consequently the project cost projection proved to be far too low. Moreover, the implementation schedule was not realistic. There was no test system for BCCS, that is, there was no way to test programming fixes and enhancements other than by trying them directly in the operating system. Finally, insufficient attention was devoted to the identification and development of measures that would track system performance to identify

high priority areas needing resources and to communicate progress and problems to top management.

- The implementation process was shortchanged. The COO reportedly made the decision to go ahead with installation even though certain key portions of the system were not ready. For example, at the time of the cut-over, at least two key components of the system, liens and judgments, and credit and collections, had yet to be programmed. Moreover, the system vendor had advised the COO not to proceed with cut-over to the new system because the programming and testing was not sufficiently complete. In addition, a number of key BCCS core team personnel were pulled off the team to go back to their original functions at a critical point when they were still needed in the BCCS implementation. Training on the system was inadequate: user training was abbreviated due to cost, IT training to debug and modify BCCS was inadequate, and much of the user training was conducted too early, which resulted in people forgetting what they had learned. Data cleansing before conversion was poorly done, due in part to turnover in database administrators. Finally, users did not understand the system adequately. For example, a large number of reports are available within BCCS, but users still do not understand many of these reports nor how to use them.

6. The longer-term relationship between IT and the PMO needs to be defined.

   - In July 2000, due to the extensive amount of work required, PGW established a PMO to oversee and focus the efforts of a select group of users and IT technicians on BCCS. The PMO is led by an experienced PGW manager and comprises 18 people, including user representatives, IT analysts, and external consultants. It is organized into three teams: billing, finance and a field team. Each of these teams contains both user representatives and IT analysts. It appears that PGW now has the right people involved and that progress is being made to address the BCCS problems. Metrics are being established to measure progress, billing errors are being reduced dramatically, and user confidence in BCCS is improving.

   - The structure and role of the PMO for the near term (six months) is clear and appropriate.

   - However, beyond the resolution of BCCS difficulties, it is not clear what the appropriate division of duties should be between IT and the PMO. Several questions exist, such as:

     - Will the PMO will still be necessary after BCCS becomes stable, and, if so, should it remain as a stand-alone group?

     - Should the PMO be within IT?

- How will IT be staffed if the PMO continues to exist in its present form? IT has lost most of its key systems development people to the PMO.

7. The FAMIS and MAPS projects were well-managed and the systems are functioning effectively.

   - FAMIS and MAPS were necessitated by the need to continue to maintain appropriate financial records. The earlier financial and material accounting systems depended on a mainframe database which was being replaced throughout PGW by a client-server environment.

   - FAMIS, which was installed in 1998, includes accounts payable, cash management, general ledger, and a fixed-assets project tracking module that tracks the costs of major PGW projects. MAPS, which was installed in June 2000, adds to this inventory, purchasing and order entry which replace the earlier mainframe inventory and purchasing system. All of the modules of both systems operate in the client-server environment.

   - The development and implementation of both FAMIS and MAPS were well-managed. The appropriate users were involved and the software which was chosen was a known product with minimal modification required. The cost (including in-house personnel, overhead, training, consultants, hardware, and software) was $3.0 million for FAMIS and $1.2 million for MAPS.

   - The transition to a client-server Oracle database model was the primary reason for implementing both FAMIS and MAPS. However, PGW cites a number of additional benefits from the two new systems. The two systems are much more flexible and easier to maintain than the older mainframe systems. FAMIS improves financial reporting, streamlines the accounting process, improves the tracking of vendor payments, and provides greater flexibility for users in terms of on-demand financial reports and on-line budget analysis. MAPS has improved the utilization of inventory, aided cycle counting, and resulted in a $1.4 million reduction in inventory.

8. PGW lacks an adequate human resources information system (HRIS).

   - PGW currently has a mainframe based payroll system that is almost thirty years old. The system is inflexible and it provides only a portion of the information needed by human resources managers. (See Chapter XIII-Human Resource Management.) Moreover, PGW must use a contractor, a retired former PGW employee who worked on the system while he was an employee, to maintain it. Finally, it is one of the few remaining systems which require the IBM mainframe computer and which currently prevent PGW from relinquishing that computer and eliminating the cost to maintain it. Exclusive of amortization costs, PGW currently spends $400,000 per year to maintain its mainframe computer system.

- PGW has actually licensed and paid maintenance fees for a Cyborg HRIS software package from about 1994 up until 1999, at a total cost of $420,000, even though the project to install that software package has been dormant since 1995. A fifteen-person implementation team was formed in 1994, but, in 1995, fourteen of the team members took early retirement. Other subsequent personnel turnover (both at the project level and among its proponents in management) forced the Cyborg implementation project to languish, and PGW has now shelved it.

- Management has set a high priority for development of a human resources information system (HRIS). A project team is charged with making a recommendation for a specific software package and vendor by the end of 2000. The cost of and time schedule for the project can not be determined until this is completed.

9. PGW has a strong and sophisticated infrastructure, which includes its computer hardware and other associated computing and networking equipment.

    - PGW's IT technical services function operates 14 Unix based Hewlett Packard client servers, approximately three dozen Novell/NT servers, and an IBM 9672 mainframe computer. In addition, PGW's computing infrastructure includes a number of printers, direct access storage devices (DASD), tape drives, routers and other network components, and other associated computing and networking equipment. This infrastructure supports approximately 1,000 Dell desktop computers and over 300 laptop computers installed in field vehicles.

    - The technical services function is managed by a director and is organized into four groups: network; systems/data center; telecommunications and help desk.

    - While the computing and networking equipment in place is generally appropriate for PGW's needs, a lack of capacity planning during the development of BCCS resulted in an overload on the system, particularly for the batch processing portions of BCCS. PGW is still maintaining its mainframe computer for relatively few applications.

10. Several important operational issues adversely affect IT efficiency and effectiveness.

    - There are a number of IT operational and management issues that make it difficult to maintain a qualified IT staff and to provide a consistently high level of service to IT users. The new CIO recognizes most of these problems and acknowledges the need for changes and corrective actions, but she has had insufficient time and resources to implement the solutions which are needed.

    - Philadelphia's residency requirements make the hiring and retention of PGW IT personnel difficult. PGW has a requirement that all new employees,

within a period of several months after hiring, be city residents. This makes it very difficult to attract new IT personnel, particularly those who are experienced and could find jobs in suburbs or nearby New Jersey. IT jobs outside of the city are plentiful and the need to relocate a home and change schools make a decision to join PGW very difficult if the applicant is a nonresident. No figures are available, but the number of experienced IT personnel who are residents of the city and who are in the market for another job, is reported to be very low. Consequently, PGW's IT staff is under its approved budget level by at least ten people, and PGW must rely heavily on more expensive contractors to make up the difference.

- PGW's IT salaries, which are below market, are another factor in making hiring and employee retention difficult. An external consulting firm is currently conducting a salary review for all of PGW, including IT. However, PGW believes that IT salaries are not competitive, which makes it difficult to attract and retain IT personnel. While IT salaries nationwide have escalated dramatically over the past two years, many companies do not have the flexibility to respond rapidly with salary plan revisions, and are having the same difficulties as PGW. (See Chapter XIII - Human Resources Management.)

- Training of IT personnel lacks sufficient emphasis. IT does not have an overall training plan which establishes goals, identifies specific training needs, lays out an annual program and schedule, and provides a basis for budgeting the funds required. The systems services group does have a plan which addresses some of these needs, but it does not include specific planned classes or costs. Applications services only has a record of classes that were attended. Training has suffered due to PGW's financial problems. For example, BCCS training for both users and IT technical people was cut back when it was discovered that BCCS was having a large cost overrun.

- Training is particularly important for PGW because it has made a major shift in its technology strategy, from a mainframe environment to a client-server environment. PGW has not made a sufficient effort to retrain both IT personnel and users in the new technology. The difficult hiring and personnel retention issues that it faces make it even more important that PGW support a good training program.

- The facilities in which PGW's analysts and developers are located are adequate in terms of the amount of space available, but they are dreary and unattractive. The computer room facilities are adequate. Experience indicates that personnel retention and hiring can be severely affected by poor working conditions.

- PGW does not survey users or assess the responsiveness of applications they use and the support they receive. PGW's IT function has not conducted any user satisfaction surveys in the last three years because it had insufficient time and resources and because the processing environment was changing

drastically. The CIO recognizes a need for this type of monitoring and in fact has recently initiated a simple rating-card to be filled out and sent back to IT after a user requires onsite computer or software support. While this is a start in the right direction, the real need is for a regular program to monitor the quality of major applications and to help detect the need for changes that will make these applications more valuable and responsive to their users.

11. PGW's IT costs have escalated threefold since 1996, and PGW needs to establish a more cost-conscious IT environment.

    - As indicated in **Exhibit XI-2**, PGW's IT budget for the year ending August 31, 2001 is $16.5 million, or more than three times the actual IT expenditures of $5.4 million incurred in the year ended August 31, 1996.

    - PGW's expected average IT cost per customer for the fiscal years 1999, 2000 and 2001 of $28.97 is in line with industry averages of $30 per customer. PGW's IT costs for the fiscal years 1996, 1997 and 1998, which averaged $13.70, were well below industry averages.

Exhibit XI-2

IT Costs Per Customer

Fiscal Year	Costs ($ millions)	Customers (000)	Cost Per Customer
1996	$ 5.4	517	$10.44
1997	7.0	514	13.62
1998	8.7	511	17.03
1999	15.5	512	30.27
2000	12.5	512	24.41
2001	16.5	512	32.23

Sources: DR 2.6.0045, statistical comparison, and BWG analysis

    - As indicated previously, PGW has incurred a significant amount of unnecessary IT expenditures in previous years including:

        - Development and implementation of GMS at a cost of $1.3 million plus maintenance costs of $72 thousand

        - Development and maintenance fees for Cyborg HRIS at a cost of $420,000

        - Overruns of $23.7 million on the implementation of BCCS.

    - Insufficient attention is given to the cost and management of outside contractors. PGW relies heavily on outside contractors to augment regular

IT staff and to provide specific skills that it does not have in-house. The IT department has a staff budget of 55 and yet has only 45 employees. In addition to these employees, PGW uses 25 outside contractors. Hourly rates for these contractors range from $19 per hour to $100 per hour, with a median rate of $77 per hour. During the year ending August 31, 2000, PGW spent $3.8 million on outside contractors for IT. This figure is approximately 50 percent greater than its budgeted expense for employees for the entire year.

- The reliance on outside contractors is not necessarily inappropriate at this point in time. Staffing is below budget levels, special skills are needed, and considerable work is required to clean up BCCS. However, there is a lack of attention to controlling the cost of these contractors. There are no regular reports which correlate the cost of each contractor with the results produced. Nor is there any regular analysis prepared which compares the cost of contractors to the equivalent cost of employees or which calculates how the IT salary plan might be bolstered if IT were to use fewer contractors and pay higher employee salaries. Implementing cost controls over the use of IT contractors can be expected to reduce costs by at least ten to twenty percent. Based on contractor costs of $3.8 million incurred in fiscal year 2000, BWG could realize savings of $380 to $760 thousand per year.

- PGW does not have a system that accounts for the cost of operating the existing computer applications or charges this cost to the appropriate user department. PGW is currently charging back the costs of major computer applications based on the same percentage of the total costs that applied to the central mainframe environment. A new charge-back methodology, based on the new client-server environment, has yet to be developed. In addition to enabling management to better understand the costs of the applications, a valid charge-back methodology would enable users to compare the value received from the IT services they receive to the cost of these services.

12. PGW's increased emphasis on IT disaster recovery planning is appropriate.

    - PGW has recently revised and updated its disaster recovery plan and the IT function is engaged in identifying and hiring a data security administrator. PGW has conducted two disaster recovery tests since the new CIO was hired in November 1999.

    - The disaster recovery plan covers contingency plans, identification of the specific technical requirements for a data center that could be used for backup, procedures for media protection, including protection and retention of vital records, protection of databases, backup procedures, offsite storage and documentation, data center operations procedures, procedures for physical security and access to facilities, and identification of specific backup facilities including backup providers, alternative sites, and reciprocal agreements with other companies.

- IT has identified two prospective candidates for the job of data security administrator. While neither of these two individuals has experience in this area, the CIO feels that either could be trained in-house. The CIO believes that an experienced candidate would command a higher salary than PGW could pay.

- The purpose of the disaster recovery facilities provider is to provide the necessary computer equipment and networking infrastructure so that PGW, in the case of a disaster that makes its own facilities unusable, can transfer some of its software to the provider's facilities and continue to run its higher priority applications. The first test under the new CIO was conducted in late 1999 and was not entirely successful because the provider took too long to tailor its network and servers to PGW's specific configuration requirements. (The facilities provider maintains a pool of equipment and a general purpose data network which it must tailor to each of its clients' specific needs before they can use it.) A subsequent test in the Spring of 2000 was successful because the provider was better prepared and more responsive. In the second test, BCCS and the Mobile system were made operational in 24 hours.

F. RECOMMENDATIONS

1. Develop and implement a formal IT planning process.

    - A plan should be prepared annually and coordinated with PGW's strategic planning and budgeting processes.

      (Refers to Conclusion 1.)

2. Strengthen the IT steering committee.

    - The committee should be chaired by a member of PGW senior management and include key users.

    - The committee should focus on long-term IT strategy as well as monitoring IT costs and services.

      (Refers to Conclusion 2.)

3. Reorganize the IT department to strengthen new project development and ongoing operation of applications.

    - As part of the reorganization, establish an applications operation and maintenance (AOM) group from existing staff within IT. This group should report to the CIO and be organized by application. AOM should be responsible for the operation and maintenance of applications after they become fully operational. Individuals in the AOM could be loaned to the

PMO for major new projects. For example, for design and development of a new payroll application, the primary individual in the AOM who is responsible for payroll would likely be assigned on special duty to the PMO for the design phase of the new payroll system.

- An individual or group in the user function should be responsible for each major application after that application is operational. This might be one or more of the same individuals who participated in the development and implementation work for the application while on special duty to the PMO.

(Refers to Conclusions 3, 4 and 5.)

4. Emphasize outsourcing as a means for developing and implementing new IT applications to the extent possible.

   - PGW's primary strategy for managing new IT development and implementation projects should be to become essentially a contract manager.

   - Adopting this approach would place the major effort for the technical aspects of systems' development with firms which specialize in and which have extensive experience in the implementation of IT systems. It would force the process of estimating, budgeting, and controlling costs for new systems' to be formalized and strengthened. It would decrease the need for PGW to maintain a large staff of employee programmers and developers.

   - A PMO team composed of experienced users and IT analysts would act as a contract manager responsible for critical tasks such as the following:

     - Development of the underlying business concepts and specifications for new systems;

     - Management of the bidding and vendor selection process;

     - Establishment of performance measures for the vendor;

     - Review and approval of vendor work plans and schedules;

     - Monitoring agreed-upon performance measures, work plans and schedules;

     - Approval of vendor invoices;

     - Testing the work product to assure that it meets the specifications and standards which were set up;

     - Conduct of post implementation audits to determine whether the systems implemented meet the needs of the user as expected and produce the benefits anticipated.

- This strategy would require PGW to more clearly and fully identify the underlying objectives and specifications of the new systems' than if the systems were to be developed in-house, since the vendor resource requirements, costs and schedule are to be based on these specifications. An overrun or schedule slippage due to inadequate systems' specifications will be much less forgiving if the development is to be outsourced, rather than done in-house.

  (Refers to Conclusions 3, 4 and 5.)

5. Restructure the Project Management Office (PMO) after the BCCS problems are resolved.

   - The future role of the PMO should be clarified to cover all major new PGW IT projects. However, this role should be limited to design, development, and implementation of a new application, not ongoing operation of the application. Overall responsibility for ongoing operation should reside with the appropriate user department. Responsibility for ongoing operation of computer applications should be within a new group in IT.

   - The PMO should report to the CIO. If IT is to be strengthened then the PMO should be under its control. IT must have better control over its own personnel. The PMO would be responsible for overseeing the development and implementation of all major new IT applications. If the application is developed in-house, the PMO would be the project manager. If the application is developed by outside vendors, the PMO would be the contract manager.

   - The only permanent members of the PMO should be IT people. During development projects for which the PMO is responsible, appropriate users would be added to the team. These users would return to their departments after the new system was fully operational. During design, and when programming is to be performed by PGW personnel, programmers from the applications operation and maintenance group might be added.

     (Refers to Conclusion 6.)

6. Continue efforts to select and implement a new Human Resource Information System (HRIS).

   - PGW recognizes the need for a new HRIS and work has begun to start this project.

   - Implementation of a new HRIS in a client-server environment will make it more possible for PGW to relinquish its mainframe computer system, thereby saving $400,000 per year.

- The project should come under the oversight of the IT steering committee, and project management should come under the PMO.

  (Refers to Conclusion 8.)

7. Take steps to strengthen IT internal operating practices.

   - Attempt to modify residency requirements to permit greater flexibility in hiring. PGW management should make an attempt to quantify and communicate the critical predicament it is in because of the City residency requirements and the need to hire and retain new IT employees.

   - Expedite the implementation of any IT salary plan adjustments that are identified by the compensation study which is underway.

   - Develop, fund, and implement a training plan for IT and the users of IT services. This plan should include an assessment of needs, an analysis of alternative means of meeting these needs (including such things as programmed instruction, in-company classes, outside classes, or a combination of any or all of these approaches), costs, schedules, and means of measuring results and improvement.

   - Remodel and brighten the IT office facilities. The goal should be to provide a facility which is more closely comparable to the main office building.

   - Implement an ongoing process to survey users and monitor the quality of systems and services that IT provides. IT should survey the users of the systems it supports and measure the reactions of these users to the service they receive. Where possible, the survey should quantify the results and these results should be tracked over time. The steering committee should monitor this survey process and the results should be provided back to the organization and particularly to the users who were surveyed.

     (Refers to Conclusion 10.)

8. Take steps to reduce and control IT costs, and make the IT and user departments accountable for IT costs.

   - Develop a tracking system to more closely monitor the cost and productivity of outside contractors. PGW should set objectives and standards for IT contractors, tracks progress and costs on the work they are performing, and measures the quality of the end products produced. This information should be summarized in a form that will enable senior management and the steering committee to more easily understand PGW's dependence on contractors and the related costs. Better controls over IT contractor costs should provide annual savings of $380 to $760 thousand per year.

   - Develop a system to account for the cost of operational systems and to charge this cost back to the systems' users. PGW should account for the cost

of the computer systems and resources that it utilizes and to charge this cost back to the users that receive the benefits. The system should be based on the present client-server environment.

(Refers to Conclusion 11.)

CHAPTER XII

Readiness for Industry Restructuring and Retail Competition

A. BACKGROUND

In this audit area, we provide information about PGW's preparedness and plans for industry restructuring and review PUC regulatory requirements that are new for PGW. Subsequent to the adoption of the Natural Gas Competition Act (Gas Act) by the Pennsylvania General Assembly in the spring of 1999, most gas companies in Pennsylvania now provide customers with a choice of suppliers. Under the Gas Act, PGW customers will be offered a choice of suppliers beginning September 1, 2003. The law requires PGW to file a restructuring plan and new tariff with the PUC no earlier than December 31, 2001 and no later than July 1, 2002. As required by the Gas Act, PGW became subject to regulation by the PUC, instead of by the Philadelphia Gas Commission (PGC) on July 1, 2000.

PGW participated in the Gas Act proceedings before the legislature, including participation in working subgroups that addressed operational and reporting issues. In accordance with the initial regulatory and reporting compliance requirements, on July 3, 2000, PGW filed its tariff, and on August 3, 2000, made its initial Gas Cost Rate (GCR) filing. At this time, the PGC retains approval authority over the PGW operating budget and has advisory responsibility to the City Council relating to the capital budget.

B. RFP OBJECTIVE

In this task area, as indicated in the PUC's RFP, we determined PGW's readiness for restructuring and retail competition, including:

- Compliance of existing PGW tariffs with PUC regulations
- The availability of aggregation and load management tariffs for all customer classes
- PGW's consideration of available opportunities in a restructured market
- PGW's expertise in the unbundling of service and rates
- Management plans for implementing a pilot program.

C. EVALUATIVE CRITERIA

In conducting the review of PGW's readiness for restructuring, we used the following criteria:

- Has PGW developed plans to address its responsibilities under the Gas Act? Has PGW given adequate consideration to PUC regulatory requirements which became applicable to PGW in July 2000?
- Has PGW begun to develop rates for use after restructuring starts that are consistent with its corporate strategy, and is PGW being creative and forward-thinking in the rate design process?
- Has PGW fully considered all available opportunities to increase revenues and control costs and developed appropriate plans for implementing a pilot program?
- Has PGW given appropriate consideration to realigning its organization to be in compliance with the unbundling of rates required by the Gas Act?

D. WORK STEPS

To complete the review in this area, we completed the following tasks:

- Reviewed the PUC's general, GCR, base rate, and restructuring filing requirements, and determined whether or not PGW's plans in these areas are adequate.
- Determined if existing PGW tariffs are in compliance with PUC regulations.
- Evaluated the adequacy of analytical tools available for developing cost-of-service studies.
- Analyzed the benefits of any special rates developed to retain large customers.
- Evaluated the extent to which PGW has analyzed its capabilities to provide various services to enhance revenues and control costs in a restructured market.
- Determined the extent to which PGW has tried to take advantage of "lessons learned" during industry restructuring from the experiences of other utilities.

E. FINDINGS AND CONCLUSIONS

1. PGW has yet to develop the procedures and databases needed to fully comply with the PUC's financial and operational reporting requirements.

    - In a letter dated June 6, 2000, the PUC's Deputy Executive Director provided PGW with a list of reporting requirements that became applicable to PGW when the PUC assumed regulatory responsibility on July 1, 2000.

    - The list includes general obligations regarding compliance with PUC regulations, general obligations relating to rates, and recordkeeping requirements. In addition, it sets forth initial filing and reporting requirements, and monthly, quarterly, annual and other periodic filing requirements.

    - PGW does not have certain required information to meet its filing requirements. For example, overdue account and termination of service statistics are required to be filed monthly. PGW does not have the information due to the difficulties surrounding the implementation of BCCS. PGW's first annual integrated resource planning report (IRP) to the PUC is due June 1, 2001. Since the company was not subject to PUC regulation until July 1, 2000, it has not had to prepare an IRP in recent years.

    - As indicated in the June 6, 2000 letter, the PUC is authorized under the statute to waive the application of any filing requirements upon request from PGW.

2. PGW can comply with the essential elements of the PUC's rules relating to GCR filings and general rate increase requests.

    - Because of the true-up provisions of the GCR tariff, the filing rules are quite general and PGW's recent filing is in compliance.

    - The information required in connection with a general rate increase request is both specific and voluminous and waivers of some provisions are likely to be required for PGW to be in compliance.

    - Information relating to rate base and return on equity is not applicable to the determination of PGW revenue requirements under the flow of funds concept commonly used by municipal utilities. In this connection, the PGC has historically determined PGW's revenue requirements on the basis of cash flow forecasts rather than on rate of return on its rate base. Under the provisions of the Gas Act, PGW's rate base will be determined by cash flow and debt coverage requirements.

- PGW believes that its FAMIS accounting system will be able to provide the detailed information that is required with respect to its history of plant investment and depreciation rates.

3. Although PGW has complied with the applicable requirements of the Gas Act, it has not yet begun to develop the information that will be required in its restructuring filings under Section 2212 of the Gas Act.

   - The initial tariff and restructuring filing is required to be filed no later than July 1, 2002. In its five-year forecast prepared in June 2000, PGW took initial steps necessary for the unbundling of rates by recognizing migration of certain customers to transportation services beginning September 1, 2003.

   - PGW's last cost-of-service study, dated July 1999, was prepared to identify the appropriate level of customer charge in the existing rate environment and does not address unbundling of rates in any significant way.

   - PGW has not yet begun to consider unbundled services or the organizational structure that will be needed to compete effectively in a restructured natural gas industry.

4. PGW is currently more limited in its marketing ability than potential competitors and will need to develop additional marketing programs, databases, and price schedules to effectively compete in the restructured gas industry.

   - PGW has not completed residential load saturation studies. It has also yet to determine the lines of business in which it expects to participate. Alternatives include distribution, merchant functions, transportation and appliance services.

   - PGW conducts all business activity under rate schedules set forth in its tariffs. Although transportation services are provided under negotiated contracts, there are no special rates or contracts developed for the purpose of retaining and expanding service to large commercial and industrial customers. However, PGW is permitted to negotiate transportation rate contracts in order to attract, retain or expand services to large industrial customers.

   - Although PGW has recommended implementation of new marketing programs to the PGC in the current budget proceedings, under current PGC procedures, expenditures relating to new program development must be approved before PGW can begin to implement the program.

   - As explained in Chapter X – Financial Management, PGW has adequate computer tools and the expertise needed to analyze potential gas markets.

5. PGW's current financial condition and cost structure result in revenue requirements that may make PGW rates noncompetitive in the restructured gas industry. (See Chapter X-Financial Management for a review of PGW's financial status.)

   - As indicated in Chapter X–Financial Management, PGW will be unable to survive without substantial rate increases and other outside financial assistance.

   - However, proposed increases will raise rates to levels that are higher than those offered in other Pennsylvania gas markets.

   - If implemented, proposed cost containment initiatives will provide some improvement in PGW's financial performance. In a September 2000 status report on the Interim Management Plan issued in March 2000, PGW identified the following cost cutting initiatives:

     - As of September 1, 2000, PGW had 70 fewer positions than budgeted

     - Potential savings of $2 to 4 million in health care costs

     - Potential reduction of $1 million in IT contracts.

F. RECOMMENDATIONS

1. Complete a review of applicable PUC regulatory and reporting requirements and develop a comprehensive implementation plan to ensure compliance.

   - The plan should identify general filing and compliance requirements for which waivers are needed.

   - The plan should address the specific base rate increase filing requirements that are not applicable in PGW's situation and should identify the waiver mechanism that will be used to ensure that the rate proceeding is not delayed.

   (Refers to Conclusions 1 and 3.)

2. Implement procedures to obtain the customer information needed on an ongoing basis, and develop a detailed marketing plan to compete effectively in the restructured natural gas industry.

   - Customer information likely to be required includes: residential load saturation studies, customer usage characteristics, and market intelligence about potential competitors.

- The marketing plan should specifically outline PGW's approach to the market including proposed lines of business, product offerings, and tariffs or prices. It should also target specific customer groups for and estimate the profitability of each proposed offering.

  (Refers to Conclusion 4.)

CHAPTER XIII

Human Resource Management

A. BACKGROUND

PGW's ability to serve customers in an efficient and cost-effective manner is strongly influenced by the overall quality and development of its employees. In the human resource (HR) review area, we examined PGW's policies and practices associated with attracting, training, informing, motivating, promoting, and rewarding its employees.

The HR department's mission is to "Ensure a diverse, skilled, accountable and professional workforce and provide rewards and opportunities that ensure a collaborative environment for strong employee partnerships." The HR department is organized into the following six sections which report to the Vice President Human Resources.

- **Employee Services** has three employees and two open positions. It designs and operates the Human Resource Information System (HRIS), administers the compensation and benefits system, and manages human resources policies and procedures.

- **Labor Relations** has three employees who oversee all PGW labor-related activities including labor policy development, grievance and arbitration activities, and administer the collective bargaining agreement.

- **Safety** has two employees and one open position and is responsible for promoting safety for all employees and the citizens of Philadelphia.

- **Medical** has three employees and is responsible for improving the long-term health and welfare of PGW's extended family by accessing good care and fostering healthy behaviors.

- **Human Resources** has two employees and two open positions, and is responsible for establishing and sustaining an HR infrastructure to support PGW's operational and strategic objectives.

- **Equal Employment Opportunity (EEO)/Affirmative Action (AA) Compliance** has three employees. It is responsible for PGW's EEO/AA programs. See Chapter XIV-Diversity and Equal Employment Opportunity for a detailed analysis of PGW's EEO/AA programs.

PGW currently has 16 employees in its HR department and five open positions. As indicated in this chapter, PGW's HR department needs to improve its performance in a number of HR functions. In this regard, it needs to fill its current open positions so that it can proceed to implement required improvements.

B. RFP OBJECTIVES

In this area, we addressed the following objectives which were identified in the PUC's RFP.

- Assess PGW's HR function.
- Evaluate, or determine the need for, any company-wide staff restructuring or reduction programs; incentive / pay for performance; merit, or cost containment programs related to employee compensation; and code of conduct provisions governing employee behavior or ethics.

C. EVALUATIVE CRITERIA

To assess PGW's HR department, we used the following criteria:

- Does PGW manage its wage and salary levels effectively and fairly? Do the criteria for paying incentive compensation promote the interests of customers?
- Are compensation and benefit levels in line with similar utilities and with local standards?
- Does PGW provide the training and guidelines necessary to promote a high quality, productive and ethical work force?
- Does PGW provide a safe work environment for its employees?

D. WORK STEPS

To complete our review of PGW's HR management, we performed the following tasks:

- Analyzed compensation programs to assess their effectiveness in supporting the operating objectives, long term strategies and overall corporate philosophy of the utility. Determined which programs are most effective in promoting the success of PGW while protecting the interests of the rate payers.
- Reviewed procedures for awarding management bonuses and incentive compensation, including eligibility, approval, limits, and timing. Compared PGW's policies with those of other utilities and general industry
- Determined the extent to which PGW pays incentive compensation for actions in the best interests of customers (e.g., keeping costs low, improving productivity, improving customer service, etc.)
- Compared recent incentive payments to corporate profitability, retail rates, and customer satisfaction.

- Reviewed procedures for evaluating jobs, setting pay levels, and monitoring trends in compensation costs.

- Reviewed efforts to contain benefits costs and the results of those efforts. Compared these efforts to other utilities and general industry.

- Assessed the clarity and completeness of the employee handbook and other information provided on employee benefits.

- Reviewed the following compensation statistics for the 1996 to 2000 period:

  - Average compensation per employee
  - Management bonus and incentive compensation awards
  - Percentage compensation increases by employees group, compared to market and CPI increases
  - Benefit costs (dollars and percent of payroll) by major benefit and employee category

- Reviewed compensation and benefit studies. Reviewed the methodology and comparison panels employed in these studies. Compared compensation levels with other utilities and other employers in the region.

- Evaluated the methods, goals and standards employed by PGW to determine total compensation and its relationship to compensation at comparable utilities and other companies for both regulated and non-regulated companies.

- Determined how management assesses the competitiveness of employee compensation and benefits compared to similar utilities, and other companies within the geographic area, including the value of the benefits to employees and flexibility based on individual circumstances.

- Determined the extent to which individual compensation levels actually vary with performance level.

- Determined the need for an incentive / pay for performance, merit, or cost containment program related to employee compensation.

- Reviewed training programs for existing and future managers.

- Reviewed the methods for evaluating the managerial skills and abilities of personnel for advancement.

- Evaluated programs in place to train its employees in safety procedures and to ensure compliance.

- Reviewed PGW practices and policies with regard to annual employee performance appraisals.

- Evaluated PGW's code of conduct provisions governing employee behavior and ethics.

- In conjunction with the review of staffing levels in Phase I, determined the need for a company-wide staff restructuring or reduction program. (See Chapter IV-Staffing Levels and Chapter XV-Proposed Work Management and Manpower Planning Program.)

- Reviewed the safety manual.

- Assessed the adequacy of safety training.

- Compared PGW's safety record with other similar utilities.

E. FINDINGS AND CONCLUSIONS

1. PGW has not managed its wage and salary levels effectively.

    - There is substantial compensation compression within several areas of PGW, and there are a number of instances in which union personnel make more than the supervisors to whom they report. In 1999, there were 35 situations in which salaries paid (without overtime) to union personnel were higher than the salaries paid to their respective supervisors. Examples include personnel in the storeroom and shops, customer service, transportation, and field services areas. There are five foremen in the storeroom and shops area that earn more than the supervisor. There are seven senior customer contact representatives that earn more than their supervisor. Two working foreman in the transportation area earn more than the foreman to whom they report. There are five general gang foreman who earn more than their assistant supervisor.

    - **Exhibit XIII-1** provides comparative salary information for the sales support representatives, which are union positions, and the residential/commercial sales representatives, which are management positions. The exhibit indicates that the average actual salaries for the union-covered support staff are 8.6 to 10.4 percent higher than that of the management sales staff for the residential/commercial area. This is due to using higher paid personnel to fill union positions, thereby causing their salaries to be "red-lined." ("Red-lining" is the practice of placing an employee with a higher salary into a position with a lower salary level. The employee's salary is then "red-lined" or frozen until the position's salary level catches up to the employee's salary.) Since the minimum salary for the management position is less than the maximum salary for each of the union positions, substantial overlapping occurs. In 1999, PGW had 35 supervisors, or about ten percent of its non-union personnel, who were paid less than their union subordinates.

Exhibit XIII-1

Comparative Salaries Examples

Position	Grade Level	Minimum Salary	Maximum Salary	Average Actual Salary
Sales Support Rep. (Union)	61B	$35,537	$52,437	$52,437
Sales Support Rep. (Union)	63A	32,167	47,206	52,239 (1)
Sales Support Rep. (Union)	64A	29,754	44,658	51,626 (1)
R/C Sales Rep. (Management)	N/A	40,705	61,058	47,518

Source: DR 2.3.0092
(1) Higher salary due to transfer within PGW

- The top level for management salaries is generally higher than the top level for union salaries. It is therefore PGW's choice that its management personnel in this area earn less than the union personnel who report to them.

- Prior to December 1, 2000, almost 23 percent (75 employees) of management employees were paid in excess of the maximum level provided in the salary range for their positions. Under the new compensation system implemented on December 1, 2000, no management employees are paid in excess of the maximum level for their positions.

2. PGW does not have any incentive or pay for performance compensation programs.

   - The finance department has requested that it be allowed to pay a bonus to reward supervisors for the extra level of effort required in the fiscal year 1999 financial audit.

   - The external consulting firm is reviewing the need for PGW to have incentive compensation programs.

3. For the period 1996 to 1999, PGW has provided compensation increases to its union and non-union employees that are greater than market increases and inflation in most years.

   - As shown in **Exhibit XIII-2**, union employees have received annual raises that have averaged 0.8 percent higher than the average consumer price index (CPI) increases for the four years from 1996 to 1999. Non-union personnel have received average raises that are 0.2 percent higher than the CPI average for the four years. These increases have occurred at a time when PGW's financial position has deteriorated. (See Chapter X-Financial Management.)

Exhibit XIII-2

Comparative Compensation Increases

Year	Non-Union	Union	Market	CPI
1996	1.7%	4.0%	3.5%	3.0%
1997	4.3	4.0	3.5	2.3
1998	0.0	1.5	3.5	1.6
1999	4.0	3.0	3.5	2.2
1996 to 1999 Average	2.5%	3.1%	3.5%	2.3%

Source: DR 2.8.0030

- While PGW reduced its staffing levels by 9.4 percent between the years 1996 and 1999 (from 1,986 to 1,809), its payroll over the same period only declined by 1.7 percent, that is, from $95.9 million to $94.3 million. A similar 9.4 percent decrease in wages would have reduced PGW's salary costs in 1999 to $86.9 million. Adjusting the $86.9 million by CPI increases would have raised PGW's 1999 payroll to about $92.3 million, or about $2 million less than the $94.3 million payroll cost PGW actually incurred. The $2 million additional annual cost is directly related to PGW's increasing compensation at a level greater than the CPI. If it were to limit its salary increases to the level of the CPI, PGW could expect to avoid salary increases of $566 thousand per year based on its 1999 payroll of $94.3 million and its past practice of granting increases averaging about 0.6 percent more than the CPI.

4. Although PGW provides various levels of training, including tuition reimbursement and supervisory training, its training programs do not meet PGW's current needs.

   - PGW's tuition reimbursement program is provided to all full-time employees and requires that a passing grade be earned for the employee to be reimbursed.

   - As shown in **Exhibit XIII-3**, there were an average of 72 employees who took advantage of the PGW tuition-reimbursement program each year from 1996 to 1999, costing PGW an average of $88,389 per year, or about $1,228 per participant per year.

   - From 1996 to 1999, only 68 employees, or 50 percent of the supervisors eligible, completed the supervisory training program. PGW has recently started training all supervisors and managers on the basics of supervision and

PGW's business. The course is a 32-hour class which is given over an eight-week period.

Exhibit XIII-3

Tuition Program Costs
($ thousands)

Year	Number of Employees	Total Dollars for the Year	Total Dollars for Union Personnel	Total Dollars for Non-Union Personnel
1996	61	$ 41.0	$ 13.7	$ 27.3
1997	73	80.7	44.7	36.0
1998	80	130.1	26.4	103.7
1999	75	101.7	38.2	63.5
Totals		$ 353.5	$ 123.0	$ 230.5
Average Per Year	72	$88.4	$30.8	$57.6

Source: DR 2.8.0041

- PGW does not provide training on improving productivity. Training for other essential areas, such as BCCS, is untimely and insufficient. (See Chapter VIII-Customer Service, Billing and Collection.)

- PGW does not routinely measure the "effectiveness" of its training efforts. However, several strategies are currently being considered to provide feedback on specific training programs.

5. Although PGW has provided a Code of Ethics to the employees, it did not require employees to sign that they had seen or agreed to its terms, and PGW does not provide specific training to promote ethics in the work force.

   - PGW issued Policy Number 003-1, "PGW Ethics and Conflict of Interest Policy and Compliance Plan" on August 6, 1999. When the ethics policy was distributed, the president and general counsel gave joint presentations to the senior executive staff only.

   - This policy was distributed to all departments, which in turn were responsible for disseminating the policy to the employees. Employees were not required to sign that they agreed to its terms. There is, therefore, no guarantee that every employee has seen a copy of the policy or that they have indicated that they understand the policy. This inconsistency could be

a potential problem if an employee were to file a grievance based on an ethics or conflict of interest discipline issue.

6. PGW periodically conducts sexual harassment training as part of a proactive preventive program.

   - Although all employees are required to attend sexual harassment training, PGW has just recently instituted a sign-in policy to ensure attendance.
   - The last sexual harassment training was conducted in 1997. PGW began a new training program in August 2000 for 196 supervisors and 713 non-supervisors.
   - In addition to training, each employee is provided a copy of PGW's Sexual Harassment Policy.
   - Employees who believe they have been harassed for any reason are encouraged to file a complaint with PGW's EEO compliance office. PGW's harassment policy is posted on the bulletin boards.

7. While PGW has a good safety-training program resulting from substantial union/management cooperation, its lost time to accident (LTA) rate per one hundred employee is high compared to other gas utilities.

   - PGW's safety record improved from 1995 to 1999, as shown in **Exhibit XIII-4.**

Exhibit XIII-4

Safety Record

Year	Recordable Accidents	LTAs	LTAs per 100 Employees	Lost Workdays	Recordable Motor Vehicle Accidents	Preventable Motor Vehicle Accidents
1996	298	114	5.81	2,810	191	98
1997	310	97	4.95	1,995	142	78
1998	251	78	4.33	2,263	109	64
1999	225	75	4.33	876	127	74
% change 1996 to 1999	-24.5%	-34.2%	-25.5%	-68.9%	-33.5%	-24.5%

Source: DR 2.8.0022 and DR 2.8.4

- PGW's LTA rate is higher than five other urban gas utilities, as shown in **Exhibit XIII-5**. All of PGW's customers and work locations are in an urban environment which can have an effect on the accident rate. The utilities listed in the exhibit have a high percentage of urban versus suburban or rural work locations.

Exhibit XIII-5

LTA Comparison - 1998

Utility	LTA Per 100 Employees
PGW	**4.33**
Brooklyn Union Gas	3.92
Washington Gas Light	3.58
Columbia Gas of Pennsylvania	2.49
Southern California Gas	2.32
Peoples Gas Light & Coke	1.29
Average	**2.72**

Source: DR 2.8.0023

- PGW identified three safety-related goals in its September 1999 Five-Year-Plan: reduce lost work day cases by 20 percent by the end of FY 2004; reduce preventable motor vehicle accidents by 20 percent by the end of FY 2004; and enhance public safety through effective oversight of safety activities, while reducing explosions to zero.

- The majority of safety training is conducted in the classroom. Certain departments also conduct safety training through standup meetings, safety meetings and bulletins. The effectiveness of safety training is ultimately measured in the reduction of accidents. PGW's progress in this area is reflected in the positive trend indicated in Exhibit XIII-4.

- Positive results from specific training programs can lead to additional training at PGW. Due to its success, the back injury prevention training given to employees in the distribution department is now being provided to other departments.

- PGW's safety record could be improved by initially establishing goals that are at least equal to the 2.72 average provided in Exhibit XIII-5, and by the direct involvement of senior management. The CEO should review the causes of all accidents resulting in injuries and initiate the appropriate corrective action to prevent similar accidents from occurring in the future.

8. PGW suffers from union rules that contribute to unproductive staff, the inconsistent interpretation of the union contract and its various local agreements, and its lack of a consistent corporate policy to enforce disciplinary action.

   - There are numerous "local agreements" that provide work methods or processes that are interpreted by the union differently from PGW. Additionally, the local agreements may be interpreted differently by various PGW departments.

   - Any attempt to provide substantial discipline within a specific department may not be upheld on appeal or arbitration due to inconsistent application. Senior management has not consistently supported individual departments' attempts at discipline.

   - PGW's inconsistent approach to discipline has proven especially troublesome for PGW when it tries to fight a grievance through arbitration. The arbitrator historically has chosen to believe the union personnel who have proof of the agreement and were present when the local agreement was made.

   - PGW needs to identify those areas where union rules contribute to poor working relationships and unproductive staff, and renegotiate terms as appropriate. For example, work rules in the customer affairs department adversely affect PGW's ability to respond effectively to customer inquiries. (See Chapter VIII-Customer Service, Billing and Collection.) It also needs to increase management training on what is currently allowed by the union contract, and ensure that all first-line supervisors understand their responsibilities and are consistent in their application of disciplinary action.

9. The high rate of absenteeism costs PGW in excess of six million dollars per year.

   - Individual departments apply several different guidelines for attendance throughout PGW. **Exhibit XIII-6** shows the inconsistent approach taken within specific areas of PGW. The lack of a consistent and effective approach to limiting absenteeism has a detrimental effect on PGW operations. (See Chapter VIII - Customer Service, Billing and Collection.)

   - PGW's HR information system (HRIS) does not collect and report information for absenteeism, and the management of each department must collect its own information. The HR department is currently selecting a new HR information system (HRIS) which will enable PGW to collect and report the information. (See Chapter XI-Information Technology.)

   - Past attempts to provide a company-wide absenteeism policy have not proven successful. For example, the HR department prepared an absenteeism policy in September 1999. To date, PGW has not implemented the draft policy because it expects to address the issue in the next union contract negotiation.

Exhibit XIII-6

Attendance Policy Approaches

Department	Counseling	First Warning	Second Warning
Building services	After 3 absences in one year	After 4 absences in one year	After 5 absences in one year
Collections and revenue recovery	After 2 absences in 6 months or 3 in one year	After 4 absences in one year	After 5 absences in one year
Customer accounting	After 2 absences in 26 weeks or 3 in 52 weeks	After 3 absences in 26 weeks or 4 in 52 weeks	After 4 absences in 26 weeks
Customer service	After 2 absences in one year	After 3 absences in one year	After 4 absences in one year

Source: DR 2.3.0201

- Paradoxically, employees who have completed their probationary period are entitled to earn four hours of pay at their regular straight time rate of pay, for each calendar quarter of perfect attendance. Employees with less than ten years of service may, at their option, "bank" the perfect attendance hours of pay and use them to offset the first calendar day of absence. Perfect attendance bonuses paid to all PGW employees since 1996 have averaged over $403,000 per year.

- On May 17, 2000, HR started manually tracking absenteeism, and the reports indicate that PGW's absenteeism exceeds 6.5 percent per day. On Wednesday, August 2, 2000, a typical day, a total of 339 employees, or 19 percent of PGW's work force, were absent due to various reasons including vacation (145) and absenteeism (116). Of the 116 who were absent, eighty-nine were taking sick days. In other words, on a typical summer day in August, five percent of PGW's total work force was absent due to sickness. Based on a 1999 payroll cost of $94.3 million, absenteeism costs PGW in excess of $6 million dollars per year. BWG believes that PGW could reduce its absenteeism rate by one-third, which would provide PGW savings in excess of $2 million per year.

10. While PGW provides a substantial and competitive benefit package, its total fringe benefits as a percentage of salary are higher than the industry.

    - **Exhibit XIII-7** provides the total cost of fringe benefits and percentage of payroll for the previous four years. Benefit costs have averaged 36.4 percent of payroll during that time period, which, according to PGW's compensation consultants, is higher than U.S. norms of 25 to 35 percent. A reduction of

PGW's fringe benefit costs to 30 percent, the midpoint of the U.S. norms, would reduce PGW's fringe benefit cost by $6.1 million per year.

Exhibit XIII-7

Fringe Benefit Costs
($ millions)

Fiscal Year	Total Payroll	Total Fringe Benefit	Percent of Payroll
1996	$ 95.9	$ 36.7	38.3%
1997	97.8	33.9	34.7
1998	95.6	35.1	36.7
1999	94.3	34.0	36.1
Average	$ 95.9	$ 34.9	$36.4%

Source: DR 2.8.0034

- The following fringe benefits are provided at no cost to employees: health insurance; legal service fund; perfect attendance bonus; payroll taxes; and pension payments.

- The collective bargaining agreement identifies the providers and level of health care coverage that is used by both union and management. The current agreement does not provide a cap on fringe benefits per employee, unless the employee selects the traditional indemnity plan which has a cap of $500 per month.

- As indicated in Chapter III-Corporate Planning, interim senior management is negotiating with retirees with respect to healthcare options to reduce costs.

11. PGW has used employee performance evaluations inconsistently in the past.

    - Employee performance evaluations were last conducted in April 2000 for the period from January 1999 through March 2000. Several employees reported that they had not received an evaluation for some time prior to that date.

    - PGW did provide training in March 2000 on how to conduct an employee performance evaluation. Union-exempt employees attended this training. Training included the reasons for and the importance of performance evaluations.

12. PGW's personnel policy manual is outdated.

    - The discipline policy issued in 1984 lacks any delineation of measures, progressive discipline, or appeal procedures.

- The substance abuse policy originally issued in 1983 and partially modified in January 1995, lacks guidance on the determination of which prescription medication might impair the employee's ability to safely carry out his/her job responsibilities. In addition, the policy fails to outline what happens with repeat offenders who are taken into custody off the job.

13. PGW requirements that all new employees live within Philadelphia makes it difficult to recruit and retain employees.

    - According to HR personnel, it is very difficult to recruit certain types of professional or technical personnel because of the requirements that they must reside within the City limits. (See Chapter XI-Information Technology.)

    - The Philadelphia residency requirements, which apply to union personnel, and the Philadelphia domicile requirement policy, which applies to non-union personnel, are both requirements of the City Council. PGW believes that "residency" and "domicile" have the same meaning.

    - The ability to hire and retain competent personnel is essential to PGW, especially since it faces the possibility of deregulation, and consideration of changing the policy is warranted.

14. Overtime at PGW was reduced significantly from 1996 to 1998, but it has increased somewhat in the past eighteen months.

    - PGW reduced its overtime from 11.3 percent of gross payroll to 3.9 percent from 1996 to 1998.

    - **Exhibit XIII-8** shows that, while the amount of overtime as a percent of gross payroll has increased recently, it is not substantially out of line with previous years and does not represent a high percentage of total salary.

Exhibit XIII-8

Overtime as a Percentage of Payroll and Average per Employee

Year	Gross Payroll ($ millions)	Management Percentage	Union Percentage	Total Percentage of Gross Payroll	Average per Eligible Employee
1996	$97.5	0.8%	10.5%	11.3%	NA
1997	99.3	0.6	8.5	9.1	$ 5,732
1998	94.6	0.4	3.5	3.9	3,259
1999	95.5	0.8	5.5	6.3	2,591
Jan-June 2000	49.4	1.0	7.3	8.4	5,349

Source: DR 2.8.0032 and 2.8.0033

- A substantial amount of the overtime in 1999 and 2000 can be attributed to addressing the problems precipitated by the BCCS conversion.

15. Until PGW develops and implements effective work management and manpower planning systems, it should not undertake a company-wide staff restructuring or reduction program. (See Chapter IV - Staffing Levels.)

    - Since PGW does not have the management tools to determine appropriate staffing levels at a departmental level, some departments or units appear to be overstaffed and some understaffed.

    - Undertaking a staff reduction program prematurely, that is, without having appropriate work management or manpower planning tools in place, could result in a further reduction in service levels and possibly have an adverse effect on PGW's safety record.

    - Phase III of this audit developed the systems specifications for a work management and manpower planning program for PGW. See Chapter XV-Proposed Work Management and Manpower Planning Program.

16. PGW is implementing most of the recommendations contained in a June 12, 2000 "Draft Report on the Assessment of the Human Resources Function" prepared by an external consulting firm that specializes in human resource management.

    - The report contained 27 specific recommendations in the following areas: vision and mission; staffing roles and resources; procedures, processes and systems; planning and analysis; compensation and benefits; and performance and productivity.

    - PGW had previously retained the same consultant in 1998 to perform a similar study. It, however, did not implement recommendations from the previous study.

    - PGW indicates that it has completed or is in the process of completing many recommendations in the June 2000 report. Several of the recommendations are on hold pending labor negotiations, and PGW has rejected one recommendation.

F. RECOMMENDATIONS

1. Develop an ongoing plan to manage the wage and salary levels in an effective manner. PGW needs to address salary compression issues, especially between the union workforce and management, to ensure that sufficient financial incentives exist for workers to want to be promoted to management. (Refers to Conclusion 1.)

2. Develop and implement an incentive compensation program that rewards personnel for high-level achievements that are specifically tied to supporting PGW's strategy. Implementation of a meaningful pay for performance system should contribute to the more cost effective operation of PGW. (Refers to Conclusion 2.)

3. Limit future compensation increases to a level no greater than the consumer price index (CPI). PGW salary costs in 1999 were at least $2 million more than they would have been if PGW had not increased salaries at a rate greater than the CPI for the years 1996 to 1999. By limiting salary increases to the CPI level, PGW could avoid salary increases of $566 thousand per year in the future. (Refers to Conclusion 3.)

4. Develop and implement a cost-effective training strategy that promotes those attributes in employees that would allow PGW to succeed in a deregulated and competitive environment. (Refers to Conclusion 4.)

5. Take steps to ensure that the Code of Ethics and conflict of interest policy are understood by all employees, and obtain proof that each employee has a copy of the policies. It is essential that each employee understands the Code. (Refers to Conclusion 5.)

6. Enhance union-management safety training efforts and develop specific annual goals for achieving improved safety levels. The CEO should reinforce the importance of safety by personally reviewing the causes for any accidents resulting in personal injuries. Initially, PGW should establish safety goals that are at least equal to industry averages. (Refers to Conclusion 7.)

7. Work within the union contract to ensure that a consistent approach is taken for disciplinary issues throughout PGW, and hold the HR department responsible for reviewing disciplinary issues company-wide. Eliminate local agreements through negotiations since they encourage inconsistent approaches among the various departments. Identify and eliminate through negotiation those work rules that contribute to poor productivity. (Refers to Conclusion 8.)

8. Reduce absenteeism through consistent treatment and increased focus on "back to work" programs. Establish a process to monitor and quantify the cost of absenteeism. Review the cost effectiveness of PGW's attendance reward plan. Reducing absenteeism by one-third should provide PGW with an annual savings in wages of over $2 million dollars. (Refers to Conclusion 9.)

9. Take steps to reduce fringe benefit costs. Consider providing a cap on fringe benefits per employee. Reducing PGW's fringe benefit costs to 30 percent, the midpoint of industry norms, would save PGW $6.1 million per year. Complete negotiations with retirees with respect to healthcare options to reduce costs. (Refers to Conclusion 10.)

10. Develop a company-wide policy on performance evaluations and ensure its consistent application. Evaluations should identify the strengths and weaknesses of an employee's performance, identify additional training that may be warranted, and obtain employee input on the operations and culture of PGW. (Refers to Conclusion 11.)

11. Update the personnel policy manual. An updated manual will help to promote consistent application of personnel policies throughout PGW. (Refers to Conclusion 12.)

12. Work with the City Council to determine the long-term effect of continuing the City residency requirement, and, if possible, eliminate it. It is essential for PGW that, in a competitive environment, it have employees with the prerequisite skills and talent to operate effectively. (Refers to Conclusion 13.)

13. Implement all relevant recommendations from the June 2000 external consultant's report, which provided a comprehensive assessment of the human resources function. (Refers to Conclusion 16.)

CHAPTER XIV

Diversity and Equal Employment Opportunity

A. BACKGROUND

Our review of diversity and equal employment opportunity (EEO) programs assessed existing Affirmative Action Plans (AAP), personnel practices, and minority- /women- /and persons-with-disability-owned business utilization. This review took place within the context of 52 PA Code, Chapter 69 diversity guidelines for major jurisdictional public utilities as well as related PUC orders.

In 1995 external consultants advised PGW to disband its Affirmative Action (AA) and EEO Office. PGW followed this advice and did not prepare AAPs for the years from 1996 through 1999. However, the individual responsible for preparation of the 1995 plan continued to document the important data needed for preparation of AAPs.

The position of Director of EEO/AA and Compliance was reinstated and now reports to the Vice President of Human Resources. The Director of EEO/AA oversees the day-to-day implementation and monitoring of diversity programs and is responsible for the preparation of the annual AAP. PGW plans to prepare an AAP for the year 2000 following the principles of The Society of Human Resource Management.

For preparation of its 2000 AAP, PGW plans to use specific procedures "to apply every good faith effort---to achieve prompt and full utilization of minorities and women, at all levels and all segments of ...[a] workforce where deficiencies exist." The AAP consists of two statistical analyses, a "Workforce Analysis" and an "Utilization Analysis." The utilization analysis will consist of three subparts: (1) a division of the workforce into major job groups; (2) an availability analysis; and (3) goals developed if "underutilization" is identified.

The narrative portion of the 2000 AAP will contain the following elements:

- Reaffirmation of Equal Employment Policy
- Dissemination of the Policy
- Responsibility for Implementation
- Identification of Problem Areas
- Establishment of Goals
- Development and Execution of Action-Oriented Programs
- Internal Audit and Reporting Systems
- Compliance with Sex Discrimination Guidelines
- Support of Community Action Programs
- Consideration of Minorities and Women Not currently in the Work Force
- An analysis of hiring practices for "minority group personnel" for the past year

- An analysis of upgrading, transfer and promotion of "minority group personnel" for the past year
- Report of the results of the prior year's program
- Signed by an "executive official"

The demographics of PGW's work force are provided in the attached exhibits.

Exhibit XIV-1 provides PGW's total work force by job category for the years 1996 to 2000.

Exhibit XIV-2 provides the number of males in various job categories by ethnic background for the years 1996 to 2000.

Exhibit XIV-3 provides the number of females in various job categories by ethnic background for the years 1996 to 2000.

Exhibit XIV-4 provides the percentage of minorities in various job categories for the years 1996 to 2000.

Exhibit XIV-5 provides the percentage of females in various job categories for the years 1996 to 2000.

Exhibit XIV-1

Work Force by Job Category [1]
(1996 to 2000)

Category	1996	1997	1998	1999	2000 [2]	% Change 1996 to 2000
Officers & Managers	202	216	225	224	246	21.8%
Professional	79	89	89	63	62	-21.5
Technicians	104	104	96	82	78	-25.0
Sales	9	23	25	12	11	22.2
Office and Clerical	501	494	462	437	426	-15.0
Craftsmen-Skilled	756	764	778	778	744	-1.6
Operations - Semi-Skilled	272	257	229	228	225	-17.3
Laborers-Unskilled	2	1	1	7	7	250.00
Service Workers	58	55	50	39	40	-31.0
Totals	1,983	2,003	1,955	1,870	1,839	-7.3%

Source: DR 2.9.0006 and BWG analysis
(1) As of 12/31 for 1996 to 1999
(2) As of 6/30/2000

Exhibit XIV-2

Males In Work Force by Job Category and Ethnic Background

As of 12/31/1996

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	124	33	3	1	7	168
Professional	44	9	2	0	3	58
Technicians	70	11	0	0	3	84
Sales	5	1	0	0	0	6
Office and Clerical	149	95	1	0	40	285
Craftsmen-Skilled	530	174	0	0	47	751
Operations - Semi-Skilled	132	104	0	0	28	264
Laborers-Unskilled	1	1	0	0	0	2
Service Workers	17	23	0	0	7	47
Totals	1072	451	6	1	135	1665

As of 12/31/1997

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	131	33	3	1	7	175
Professional	43	12	2	1	2	60
Technicians	66	9	0	0	4	79
Sales	9	4	0	0	0	13
Office and Clerical	146	94	1	0	39	280
Craftsmen-Skilled	536	175	0	0	48	759
Operations - Semi-Skilled	123	101	0	0	25	249
Laborers-Unskilled	0	1	0	0	0	1
Service Workers	17	21	0	0	7	45
Totals	1071	450	6	2	132	1661

Exhibit XIV-2
(continued)

Males In Work Force by Job Category and Ethnic Background

As of 12/31/1998

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	135	35	3	1	10	184
Professional	41	10	2	1	3	57
Technicians	65	9	0	0	3	77
Sales	7	3	1	0	0	11
Office and Clerical	135	88	1	0	36	260
Craftsmen-Skilled	546	175	0	0	48	769
Operations - Semi-Skilled	107	91	0	0	24	222
Laborers-Unskilled	0	1	0	0	0	1
Service Workers	15	20	0	0	7	42
Totals	1051	432	7	2	131	1623

As of 12/31/1999

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	133	32	2	0	10	177
Professional	32	6	2	1	1	42
Technicians	56	9	0	0	3	68
Sales	4	3	0	0	0	7
Office and Clerical	124	81	1	0	33	239
Craftsmen-Skilled	546	175	0	1	49	771
Operations - Semi-Skilled	103	90	0	0	27	220
Laborers-Unskilled	4	2	0	0	0	6
Service Workers	11	17	0	0	4	32
Totals	1013	415	5	2	127	1562

Exhibit XIV-2
(continued)

Males In Work Force by Job Category and Ethnic Background

As of 6/30/2000

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	158	36	1	0	10	205
Professional	31	7	2	1	1	42
Technicians	52	9	0	0	3	64
Sales	4	2	0	0	0	6
Office and Clerical	119	78	1	0	33	231
Craftsmen-Skilled	521	168	0	1	48	738
Operations - Semi-Skilled	103	88	0	0	27	218
Laborers-Unskilled	4	2	0	0	0	6
Service Workers	11	17	0	0	4	32
Totals	1003	407	4	2	126	1542

Source: DR 2.9.0006 and BWG analysis

Exhibit XIV-3

Females In Work Force by Job Category and Ethnic Background

As of 12/31/1996

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	16	18	0	0	0	34
Professional	12	7	0	0	2	21
Technicians	13	6	0	0	1	20
Sales	2	1	0	0	0	3
Office and Clerical	78	125	2	0	11	216
Craftsmen-Skilled	1	3	0	0	1	5
Operations - Semi-Skilled	3	4	0	0	1	8
Laborers-Unskilled	0	0	0	0	0	0
Service Workers	5	5	0	0	1	11
Totals	130	169	2	0	17	318

Exhibit XIV-3
(continued)

Females In Work Force by Job Category and Ethnic Background

As of 12/31/1997

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	22	19	0	0	0	41
Professional	16	11	0	0	2	29
Technicians	13	11	0	0	1	25
Sales	5	4	1	0	0	10
Office and Clerical	75	124	2	0	13	214
Craftsmen-Skilled	1	3	0	0	1	5
Operations - Semi-Skilled	3	4	0	0	1	8
Laborers-Unskilled	0	0	0	0	0	0
Service Workers	5	5	0	0	0	10
Totals	140	181	3	0	18	342

As of 12/31/1998

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	22	19	0	0	0	41
Professional	18	11	0	0	3	32
Technicians	13	5	0	0	1	19
Sales	6	7	0	0	1	14
Office and Clerical	69	119	2	0	12	202
Craftsmen-Skilled	2	6	0	0	1	9
Operations - Semi-Skilled	2	4	0	0	1	7
Laborers-Unskilled	0	0	0	0	0	0
Service Workers	3	5	0	0	0	8
Totals	135	176	2	0	19	332

Exhibit XIV-3
(continued)

Females In Work Force by Job Category and Ethnic Background

As of 12/31/1999

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	24	22	0	0	1	47
Professional	12	7	0	0	2	21
Technicians	9	5	0	0	0	14
Sales	3	2	0	0	0	5
Office and Clerical	69	114	2	0	13	198
Craftsmen-Skilled	2	4	0	0	1	7
Operations - Semi-Skilled	2	5	0	0	1	8
Laborers-Unskilled	0	1	0	0	0	1
Service Workers	3	4	0	0	0	7
Totals	124	164	2	0	18	308

As of 6/30/2000

Category	White	Black	Asian	Native American	Hispanic	Totals
Officers & Managers	24	16	0	0	1	41
Professional	11	6	1	0	2	20
Technicians	9	4	0	0	1	14
Sales	3	2	0	0	0	5
Office and Clerical	70	112	2	0	11	195
Craftsmen-Skilled	2	4	0	0	0	6
Operations - Semi-Skilled	2	4	0	0	1	7
Laborers-Unskilled	0	1	0	0	0	1
Service Workers	3	5	0	0	0	8
Totals	124	154	3	0	16	297

Source: DR 2.9.0006 and BWG analysis

Exhibit XIV-4

Percentages of Minorities in Various Job Categories [1]

Job Category	Year				
	1996	1997	1998	1999	2000 [2]
Officers & Managers	30.6%	29.1%	30.2%	29.4%	26.0%
Professionals	29.1	36.1	33.7	25.3	32.2
Technicians	20.1	24.0	18.7	20.7	21.7
Sales	22.2	39.1	48.0	41.6	36.3
Office & Clerical	53.8	55.2	55.8	55.8	55.6
Craftsmen-Skilled	29.9	29.7	29.5	29.5	29.7
Operations-Semi-Skilled	50.3	50.9	52.4	53.9	53.3
Unskilled Laborers	50.0	100.0	100.0	42.8	42.8
Service Workers	62.2	60.0	64.0	64.1	65.0
Total Work Force	**39.3**	**39.4**	**39.3**	**39.1**	**38.7**

Source: DR 2.9.0006 and BWG analysis
(1) As of 12/31/ for 1996 to 1999
(2) As of 6/30/2000

Exhibit XIV-5

Percentages of Females in Various Job Categories [1]

Job Category	Year				
	1996	1997	1998	1999	2000 [2]
Officers & Managers	16.8%	18.9%	18.2%	18.3%	16.6%
Professionals	26.5	34.9	35.9	33.3	32.2
Technicians	19.2	24.0	19.7	17.0	17.9
Sales	33.3	43.4	56.0	41.6	45.4
Office & Clerical	43.1	43.3	43.7	45.3	45.7
Craftsmen-Skilled	0.7	0.7	1.1	0.9	0.8
Operations-Semi-skilled	2.9	3.1	3.0	3.5	3.1
Unskilled Laborers	0	0	0	14.2	14.2
Service Workers	18.9	18.1	16.0	17.9	20.0
Total Work Force	**16.0**	**17.0**	**16.9**	**16.4**	**16.1**

Source: DR 2.9.0006 and BWG analysis
(1) As of 12/31/ for 1996 to 1999
(2) As of 6/30/2000

B. RFP OBJECTIVE

In this task area, we addressed the following objective which was defined in the PUC's RFP.

- Analyze PGW's diversity and equal employment opportunity (EEO) programs and activities, including:
  - The trends in minority and women employment levels, as well as in purchases and contracting arrangements with minority-, women- and persons-with-disability-owned businesses;
  - PGW's complement of minority and female employees and use of minority-, female-, and disabled-owned vendors reasonably representative of the relevant population;
  - PGW's recruiting, advertising, training, promotion and retention practices with respect to EEO. Assess PGW's internal procedures for addressing complaints from individuals alleging discrimination due to race, religion, age, national origin, sex or disability;
  - The adequacy of PGW's EEO plan and its goals, and management accountability for achieving these goals.

C. EVALUATIVE CRITERIA

In this area, we used the following evaluative criteria:

- Is the use of minority and female employees within all job groups representative of the relevant workforce population?
- Is the trend in minority and women employment levels moving towards a representation of the population of the service territory?
- With respect to EEO, are PGW's recruiting, advertising, and retention practices appropriate?
- Does the EEO plan have challenging goals and is management held accountable for achievement of EEO goals?
- Is the trend in purchasing and contracting arrangements with minority and women-owned businesses moving towards a reasonable representation of the population of the service territory?
- Is the use of minority-, women-, and persons-with-disability-owned businesses reasonably representative of the relevant population?

- Are PGW's complaint procedures for discrimination appropriate?

D. WORK STEPS

To complete the review of EEO, we performed the following tasks:

- For the period from 1996 through 2000, reviewed plans of action to meet employment goals.
- Reviewed female and minority employment trends in both blue-collar and white-collar job area acceptance ranges (JAAR).
- For the period from 1996 through 2000, reviewed data regarding minority/women business utilization, including type, dollar amount, joint ventures, professionals, subcontractors, vendors, and goods and services providers.
- Reviewed statistics of the local, regional, and national labor market areas. Segmented data according to the most recent organization chart which shows occupational categories by race and sex, and, according to geographical area from which the utility recruits.
- Reviewed the use of state, local, or national advertisements to fill vacant positions.
- Analyzed the percentage of minorities/females for each job group in the total population of the relevant labor market area.
- Analyzed demographic percentages of each group (minorities, non-minorities, males and females) in the workforce.
- Analyzed the extent of unemployment for minorities and females.
- Analyzed the availability of promotable minorities and females who possess requisite skills within the present workforce.
- Examined several construction and engineering projects during the 1996-2000 period and assessed the use of minority and women businesses as outside contractors.
- Using local, regional, and national databases to identify minority- and women-owned businesses, determined PGW's utilization of these businesses.
- Analyzed the most probable business opportunities for minority- and women-owned business.
- Analyzed PGW's advertising program as it relates to meeting EEO objectives.

- Determined if the recruitment program makes appropriate use of advertising, agencies, executive search, career centers, professional associations, and trade organizations.

- Assessed PGW's college recruiting and how it selects schools, trains recruiters, makes campus visits, and performs interviews on campus.

- Assessed PGW's college recruit placement policy including orientation and follow up.

- Assessed how PGW recruits specialized personnel including engineers, scientists, technicians, and other professionals.

- Assessed PGW's executive recruitment practices.

- Assessed PGW's programs and activities to retain a diverse work force with respect to:

  - Recognition
  - Self-nomination
  - Reward systems (personnel and staff)
  - Communications (internal)
  - Effective policies and programs that attract, retain and motivate employees
  - Maximizing the employee's career development
  - Attaining standards of performance
  - Achieving the organization's goals.

- Reviewed PGW's internal procedures for addressing complaints from individuals who allege that they have been discriminated against due to their race, religion, age, national origin, sex, or disability.

- Reviewed the complaint history from 1996 to 2000 and evaluated the results.

- Analyzed the goals established for hiring and promotion of minorities and women in all white and blue collar "JAARs".

- Compared and evaluated the results from 1996 to 2000 with respect to:

  - Status of under-utilization versus goal setting
  - Goal setting versus accomplishments
  - Rationale for degree of accomplishments.

- Evaluated the affect of meeting EEO goals on managers and supervisors and performance appraisals.

- Determined if there are rewards or recognition for excellence in managing and/or goal achieving EEO goals.

E. FINDINGS AND CONCLUSIONS

1. While PGW's 1995 AAP was in compliance, no AAPs were prepared for the years 1996 to 1999.

   - The 1995 AAP utilization analysis indicated that:

     - For females, 29 of 37 positions in job groups were under-utilized.
     - For minorities, 25 of 37 positions in job groups were under-utilized.
     - Twenty of the female categories were within reach of parity.
     - Twenty-five of the minorities categories were within reach of parity.

   - The 1995 AAP provided all of the procedural and programmatic tasks required to develop sources and protected class candidates, and to monitor, train and track their progress.

   - For its 1995 AAP, PGW appropriately used a utilization factor analysis related to Greater Philadelphia, and it plans to use this method in preparing its year 2000 AAP.

   - PGW's availability of personnel for jobs is based upon a consideration of the following factors.

     - The immediate labor area for PGW is the City of Philadelphia.

     - External availability factors are evaluated and weighted on the basis of the degree of relevance of each factor affecting the pool of qualified external applicants. Value weights are based upon historical data on hires by job group for a five-year period.

     - Internal availability factors are evaluated in accordance with the degree to which PGW has used job groups for internal promotions and transfers using data over the past five years. Unless otherwise indicated, every minority and female in the selected internal pool is considered as promotable without respect to experience, tenure, mobility, interests or skill differences.

     - The computed availability is an estimate of the balance between internal and external sources in filling positions within each job group. This estimate is determined by using historical experience.

     - Statistical percentages are multiplied by the value weights in order to obtain the availability percentages.

2. The gross hiring of minorities from 1996 through 1999 suggests that PGW is making progress towards reaching parity, that is, 80 percent utilization.

   - **Exhibit XIV-6** summarizes PGW's new minority and women hires by position for the years 1996 to 1999. In this exhibit, a new hire who was a minority woman would be reflected as a new minority hire and as a new woman hire.

   - For the 1995 AAP, PGW conducted an in-depth analysis of the workforce composition and seniority practices by organization unit and by job groups. The Philadelphia County Standard Metropolitan Statistical Area (SMSA) showed that females make up 53.5 percent of the workforce. Females had a 16.2 percent representation at PGW, hence, an overall under-utilization of females by 37.3 percent. Females were under-utilized in all job groups except for: assistant supervisors/coordinators; administrative, technical and engineering professionals; administrative support technicians; entry and intermediate level clerical; senior level clerical; secretarial assistants/other assistants; customer contact clerical; and senior building mechanic.

   - Minorities had a 38.7 percent representation at PGW. Within the Philadelphia County SMSA, minorities made up 47.9 percent of the labor force. Therefore, there was an overall under-utilization of minorities by 9.2 percent. Minorities were under-utilized in all job groups, however that percentage of 9.2 is about 20 percent, or 0.8 on a parity scale of 0.0 to 1.0.

   - No practices or provisions exist in the union contract with respect to the Equal Employment and Affirmative Action policy which are inconsistent with the applicable rules, regulations and judicial decisions. The policy is posted in prominent places throughout PGW's facilities, and reviewed periodically with the union's human resource committee.

   - The most critical areas in reaching representations in 1995 were in executive management and operations supervisors. These two areas still require improvement. Progress towards increasing the number of operations supervisors is hindered by current compensation practices which, in some cases, pay union members more than their supervisors. (See Chapter XIII-Human Resource Management.)

3. PGW's approach to recruiting minority and females is appropriate.

   - All recruiting sources are provided a copy of the Equal Employment and Affirmative Action Policy, and are advised to actively recruit and refer qualified minorities and women for all positions listed. All advertisements indicate that PGW has and complies with an Equal Employment and Affirmative Action Policy.

   - **Exhibit XIV-7** provides a list of PGW's recruiting sources. PGW recruits minority, female and physically challenged candidates for all positions by

Exhibit XIV-6

New Hires by Calendar Year

Year/Position	Number	% Minority	% Women
1996			
Officials and Managers	15	60.0%	27.0%
Professional	7	42.0	42.0
Technicians	3	100.0	100.0
Office and Clerical	1	100.0	100.0
Total / Percent of Total	**26**	**61.5**	**42.0**
1997			
Officials and Managers	18	22.0	27.0
Professional	15	33.0	53.0
Office and Clerical	7	57.0	100.0
Technicians	4	80.0	60.0
Sales	9	55.5	67.0
Operations-Semi-Skilled	6	66.0	51.0
Total / Percent of Total	**59**	**44.0**	**49.0**
1998			
Officials and Managers	8	37.0	50.0
Professional	9	44.0	55.0
Office and Clerical	2	50.0	50.0
Operations-Semi-skilled	1	100.0	100.0
Total / Percent of Total	**20**	**45.0**	**50.0**
1999			
Officials and Managers	8	37.5	25.0
Professional	7	85.0	28.0
Office and Clerical	4	75.0	100.0
Technicians	2	100.0	50.0
Total / Percent of Total	**21**	**52.0**	**42.0**
2000 (1)			
Officials and Managers	2	50.0	50.0
Professional	1	100.0	0.0
Technicians	1	100.0	0.0
Total / Percent of Total	**4**	**75.0**	**25.0**

Source: DR 2.9.0016 and BWG analysis
(1) As of June 30, 2000

Exhibit XIV-7

Recruitment Sources

Community Organizations
Opportunities Industrialization Centers
North City Congress - Employee Service
Area Manpower Planning Council
Philadelphia Urban Coalition
Bureau of Vocational Rehabilitation
Widener School
Pennsylvania SER Jobs for Progress, Inc.
Philadelphia Urban League
Options for Women
Office of the Commonwealth of Puerto Rico
Congresso De Latinos Unidos
JUDICARE
Concilio Hispano
Governor's Commission for Latino Affairs
National Conference on Puerto Rican Women
Southeast Asian Mutual Assistance Association Coalition, Inc.
Community College Counseling Division

Sororities and Fraternities
Delta Sigma Theta Sorority
Alpha Phi Alpha Fraternity
Omega Psi Phi Fraternity

Business Associations
Black Data Processing Association
National Society of Black Engineers
National Society of Black and Female Engineers
Metamorphosis

Traditional Minority Institutions
Cheyney University
Howard University
Lincoln University

Minority Career Days / Job Fairs
Berean Institute
Drexel University
Howard University
Lincoln University
University of Pittsburgh
Urban League of Philadelphia

Source: DR 2.9.0007

advertising in minority publications, listing job openings with minority- and female-sensitive organizations, handicapped organizations and state agencies.

- When appropriate, minority professional organizations, local and regional colleges and universities and alumni associations are contacted for job openings. Recruitment agencies are used for higher-level positions.

4. PGW provides training to all employees regardless of race, religion, national origin, gender, age or disability. (See Chapter XIII-Human Resource Management for review of the quality of PGW's training programs.)

    - Specific training modules planned to improve diversity at PGW include:

        - Building partnerships with peers and managers through communication

        - The manager as coach and mentor

        - Effective counseling to correct problems

        - Review of federal and state laws that affect supervisors and managers.

    - PGW encourages all eligible employees to participate in the company-sponsored professional development and tuition refund program.

    - PGW provides career counseling to promotable and transferable minorities, women, and disabled persons. For those who want to transfer to nontraditional positions, PGW provides opportunities for retraining, as well as enrichment training to help them qualify for higher-level jobs.

5. PGW supports many community programs through service of employees.

    - PGW's community outreach supports programs which benefit young people, senior citizens and the disadvantaged. The programs also demonstrate a commitment to education in support of community progress.

    - The programs include:

        - Adopt-a-School
        - Community Outreach Vehicle
        - Speakers Bureau
        - Use of PGW facilities
        - Community outreach programs and events
        - Supporting community events
        - Career Exploration for Youth
        - Kid Safe
        - Gate Keeper Program

6. The PFMC Board of Directors (BOD) recently approved a diversity policy for PGW which was formulated by its newly-formed diversity committee.

   - The committee has developed a policy, approved by the BOD, which addresses "managing diversity." This approach calls for substantial variation from past practices. To stimulate managing diversity, the policy defines "diversity" to include dimensions other than race, gender and ethnicity, such as age, tenure with the organization, lifestyle, functional and educational background, geographic origin.

   - The principal objective of the BOD policy is to create a work environment at the utility "where everybody wants to be and feels they are a productive member of the team (sic)." Further, the policy advocates leveraging the diversity of the staff and creating a work environment that:

     - Recognizes individuals, understands them, and makes them a positive element of our institution

     - Fosters trust and always treats people with dignity

     - Values the strengths and abilities of each of our employees so we fully draw on their competence to achieve maximum contribution

     - Facilitates the attraction, retention and advancement of all capable people

     - Develops an increased understanding of employee's perceptions and attitudes regarding cultural diversity

     - Understands that workforce diversity is a reality and management must be proactive in its utilization

     - Gains insights on the unique management skills that will be required to achieve the highest levels of productivity from a culturally diverse workforce.

   - The policy has yet to be distributed to PGW employees.

7. PGW's human resource (HR) department's objectives are in concert with the BOD's diversity committee's objectives.

   - The HR department plans to improve employee recruiting, performance, retention and work place satisfaction by:

     - Using a more equitable compensation system for nonunion employees

     - Accurately and effectively placing qualified candidates through an improved selection process

- Designing, implementing and managing training programs that provide employees with the skills and competence to meet PGW's business goals and the employee's personal growth

- Promoting a diverse, equitably-composed workforce through recruiting, hiring, training, promotions, and rotational assignments.

- The department plans to strengthen efficiency and management effectiveness by:

  - Clearing PGW's union grievance backlog by December 31, 2000

  - Reducing the number of grievances filed by 20 percent

  - Obtaining better arbitration results through preparation and oversight

  - Managing staffing, training and diversity in a manner that poses minimal administrative burden and cost to PGW.

8. Management accountability for diversity needs to be increased.

   - Currently, there is insufficient accountability by PGW's management for achieving diversity goals. Diversity is included on the management appraisal form as a distinct item. Diversity is not, however, listed in descriptions for all middle and executive management positions. While senior management can be rewarded with incentive pay, such rewards are not related to diversity goals.

   - In order for diversity efforts to have significance, they must be communicated from the top down. If the responsibility is not clearly defined and communicated, no one is held accountable. PGW officials need to be held accountable, or performance in this area will tend to level off or even deteriorate. In as much as senior managers and other managers have hiring-related duties that affect achieving diversity goals, diversity objectives should be a part of their position descriptions.

9. Opportunities exist to increase utilization of minorities and females throughout PGW's workforce.

   - PGW has achieved some growth in minority and female utilization during the past four years, and its workforce continues to have a lack of females and minorities within certain job groups and departments.

   - Diversity programs should be designed to move toward full utilization of all types of people throughout all levels and departments of PGW without regard to gender or race. The objective should be to achieve a workforce that is representative of the labor market and the customers of PGW.

10. Focus groups with first line supervisors and line employees revealed a number of concerns regarding PGW's diversity environment.

    - To gather information regarding PGW's diversity environment, BWG conducted two separate focus groups with first line supervisors and line employees. The elements discussed included:

        - PGW
        - Pay
        - Future opportunities / promotions
        - Organizational efficiency
        - Team work
        - Working conditions
        - Benefits
        - Personal satisfaction
        - Supervision
        - Communications
        - Diversity.

    - Key concerns expressed by the participants included:

        - Degree of executive management's communication with line staff
        - Degree of job security vis a vis PGW's business health
        - First level supervisors' pay versus union members' pay
        - Lack of diversity in operation's supervisors and senior management.

11. PGW's HR department has a formal procedure for addressing complaints from employees alleging discrimination, and has had only seven complaints filed over the last two years.

    - Employees who believe that they have been discriminated against for any reason may file a complaint with the Director of EEO/AA and Compliance. The complainant is asked, but not forced, to complete a "complaint intake form."

    - As indicated in **Exhibit XIV-8**, PGW has seven EEO discrimination complaints dating from August 1998, which is an excellent record for an organization of PGW's size.

12. While PGW has an appropriate program for making materials purchases from minority business enterprises (MBE) and women business enterprises (WBE), its recordkeeping needs to be improved in general and specifically to reflect purchases from disabled-person business enterprises (DBE).

Exhibit XIV-8

Open EEO Complaints - As of 8/31/00

Date Received	Charge	Status
8/13/98	Race Discrimination	Response submitted 9/30/98. Complainant did not report to fact-finding conference. Awaiting rescheduling of fact finding conference.
12/98	Sex Discrimination	In Litigation
2/8/99	National Origin	Fact-finding conference held on 6/29/99. Awaiting decision.
5/4/99	Disability	Submitted response on 6/6/99. Fact-finding conference canceled by complainant's attorney.
7/26/99	Race/Age Discrimination	Fact-finding conference held on 12/14/99. Additional information submitted. Awaiting decision.
7/26/99	Race/Age Discrimination	Fact-finding conference held on 8/19/99. Complaint is being amended.
9/1/99	Race Discrimination	Fact-finding conference held on 2/4/00. No probable cause decision.

Source: DR 2.9.0017

- As indicated in **Exhibit XIV-9**, these purchases ranged from 8.5 percent to 12.8 percent of total materials purchases for the years 1997 to 1999.

Exhibit XIV-9

Minority/Women Materials Purchasing Activity ($ millions)

Calendar Year	MBE Purchases	WBE Purchases	Total MBE & WBE Purchases	Total PGW Purchases	MBE/WBE as Percent of Total PGW Purchases
1999	$1.1	$1.8	$2.9	$22.6	12.8%
1998	1.4	1.0	2.4	28.2	8.5
1997	1.8	2.3	4.1	45.3	9.1

Source: DR 2.9.0009

- As indicated by the increase in MBE/WBE purchases from 9.9 percent of total purchases in 1996 to 12.8 percent in 1999, PGW's overall record in this

area is good. See Chapter V-Support Services for an explanation of the significant reduction in purchases that occurred between 1997 and 1998.

- PGW's MBE/WBE program within materials management uses certification applications and questionnaires as tools to identify vendor capabilities and expertise. The program identifies those areas within PGW that may have a need for the services or products being offered.

- If a vendor is supplying routine commodities, such as valves and hand tools, the vendor is entered into the vendor database and included in bid opportunities as the material requirements warrant the purchase of that item or service.

- PGW's presence in the MBE/WBE business communities includes corporate memberships with the following organizations:

  - African-American Chamber of Commerce of Philadelphia
  - National Association of Women Business Owners (NAWBO) - Philadelphia Chapter
  - National Minority Supplier Development Council of Pennsylvania, New Jersey and Delaware (NMSDC)
  - Philadelphia Hispanic Chamber of Commerce.

- In addition, PGW has an established working relationship with the Minority Business Enterprise Council (MBEC) of the City of Philadelphia. This agency serves as the City's certification arm as well as the advocate to ensure MBE/WBE participation in city contract opportunities. Other outreach efforts are made through PGW's participation in trade shows, business forums, and other events which attract MBE/WBE businesses.

- While referred to in its MBE/WBE materials purchases policy, PGW does not have an effective program in place for purchasing from DBEs.

13. PGW does not have an effective MBE/WBE/DBE program for purchases outside the normal procurement process, that is, "signature purchases."

    - As appropriate, vendors are instructed to contact department representatives directly if the service is something outside the normal procurement process, for example, accounting or legal services, IT services, or other consulting services. There is no follow-up program to ensure that potential vendors are actually given full consideration for promoting their services.

    - For the years 1995 to 1997, signature purchases approximated only $542,000, $420,000 and $945,000 respectively. PGW was unable to provide the purchases made from 1998 to 2000.

    - Signature purchases are not clearly defined for the most probable opportunity for using MBEs, WBEs and DBEs.

F. RECOMMENDATIONS

1. Ensure that the PFMC Board of Directors requires that PGW file an Affirmative Action Plan (AAP) on an annual basis. (Refers to Conclusion 1.)

2. Identify the employment areas that are below "parity" in the year 2000 AAP and develop feasible approaches for reaching parity. (Refers to Conclusion 2.)

3. Hold senior management accountable for implementing the diversity policy approved by the PFMC Board of Directors. (Refers to Conclusions 8, 9 and 10.)

4. Develop and implement a meaningful MBE/WBE/DBE program for making purchases outside the normal procurement process. (Refers to Conclusion 13.)

CHAPTER XV

Proposed Work Management and Manpower Planning Program

A. BACKGROUND

During our Phase I review of staffing levels, BWG determined that PGW does not have a comprehensive work management and manpower-planning program in its operational areas. This conclusion was validated in our Phase II work in the gas distribution and customer service areas. In most cases, managers have productivity and performance systems available that collect data that are useful in projecting future workload. Many of these systems also collect actual hours versus targets or estimates for some work functions. While managers can translate forecast workload into man hours and eventually convert them to resource requirements, more managers use these indicators to measure and monitor day-to-day business, and not for long-range planning. Moreover, PGW does not use any of these systems as a planning tool to size its work force. Thus, none of the systems operates as a comprehensive work management and manpower planning system.

Similarly, PGW does not have work management systems for management employees in functions commonly referred to as "white collar work." As a result, there is little or no data available to forecast white-collar work and determine staffing needs. Consequently, manpower planning for white-collar workers is based on controlling increases to existing staffing levels. This control is exercised during the annual budgeting process, as well as during the year when employees retire, transfer or otherwise leave PGW.

In the absence of a formal manpower planning process, staffing levels are usually determined arbitrarily by top management or trended using historical staffing levels. In these situations, changes to staffing levels at PGW are not based on an objective analysis.

Based on these findings the PUC authorized BWG to conduct a Phase III project to develop specifications and procedures for a comprehensive work management and manpower-planning program for PGW.

B. OBJECTIVE

BWG's objective in this Phase III project was to design the PGW work management and manpower planning program, prepare a detailed implementation plan and prepare specifications for the associated systems and tools.

The program, as designed, will accomplish the following for each PGW department:

- Ensure that all of PGW's employees report their time against work and function codes that represent the tasks and activities they perform. These work codes should be based on the identification of drivers that can be used to forecast

workload and track progress against targets and goals. The time reporting process should capture 100 percent of each employee's hours including holidays, sick time, vacations and administrative tasks.

- Make sure that the information collected by the time reporting process can be used to monitor utilization and compare actual amounts of work performed and accomplishments against targets and goals. This information should also be able to be used to measure and monitor work force productivity and performance, forecast workload, and determine optimum staffing levels.

- Be easily integrated with PGW's annual budgeting process.

C. WORK STEPS

In conducting the Phase III project, we completed the following tasks:

1. Prepared a proposed plan for developing and implementing a comprehensive time reporting system for each department within PGW. (See Section D - Proposed Implementation Plan.)

    - Verified with management our understanding of PGW's current time reporting systems and procedures within each department.

    - Evaluated the work and activity codes used to capture employee time. Reviewed the methods PGW employees use to report their time against work and function codes that define the tasks and activities they perform. Identified areas where PGW will need to select alternate work and function codes based on the availability of drivers that can be used to forecast workload, as well as track progress against targets and goals.

    - Identified the need for time reporting procedures that will capture 100 percent of each employee's hours, including holidays, sick time, vacations and administrative tasks. Identified methods for collecting employee time information in the manpower planning and reporting program.

    - Prepared general specifications for systems and tools needed to support the time reporting process.

2. Prepared a proposed plan for developing and implementing procedures for appropriate work management systems in each department at PGW. (See Section D - Proposed Implementation Plan.)

    - Verified with management our understanding of work management systems currently used at PGW within each department.

- Evaluated the effectiveness of these systems in measuring and monitoring work force productivity and performance. Where necessary, developed recommendations for modifying current systems and procedures or implementing new tools where none currently exist (for example, in "white collar" areas).

- Ensured that all systems (existing, new and modified) will provide information that can be used to monitor employee utilization, compare actual work volumes and accomplishments against targets and goals, and generate other management reports as required.

- Identified the systems and tools needed to support the work management systems.

3. Prepared a proposed plan for developing and implementing a comprehensive manpower planning process. (See Section D - Proposed Implementation Plan.)

    - Developed specifications for manpower planning models that use data collected by the time reporting systems and are required for the work management systems. Ensured that the information can be used to facilitate manpower planning, that is, forecast workload and determine the optimum staffing for each organization.

    - Developed procedures for a bottom-up manpower planning process to provide the basis for comparison against, or verification of, top-down staffing directives. The processes and associated tools are based on the needs of first and second level managers, in order to provide them with a means of determining resource needs to meet forecast workloads.

    - Identified the parameters that should be used when developing detailed specifications for the software and hardware needed to support the process.

4. Prepared this chapter which includes a proposed implementation plan for the comprehensive work management and manpower-planning program. This chapter includes:

    - A work plan for implementing the program.

    - General specifications for the new systems required for the program.

    - An analysis of the costs and benefits resulting from the program.

D. PROPOSED IMPLEMENTATION PLAN

The manpower planning implementation plan provides for a sequential approach for establishing the PGW manpower planning and reporting program. The manpower planning target schedule is detailed in **Exhibit XV-1**.

Exhibit XV-1

Proposed Project Schedule

Project Activities		Target Dates	
		Start	Complete
1.	Presentation to PGW management		November 30, 2000
2.	PGW management accept recommendation to implement Manpower Planning Program		December 15, 2000
3.	Management Project Review Meetings	Monthly starting January 2001	
4.	Introduce the details of the manpower planning process to the PGW organization	December 18, 2000	January 31, 2001
5.	Identify major work categories and specific work activities each organization wants to monitor.	December 18, 2000	January 31, 2001
6.	Finalize major work categories and specific work activities. Communicate major work categories and monitoring requirements to the IT department.	January 2, 2001	February 9, 2001
7.	Support IT department implementation efforts.	January 2, 2001	September 1, 2001
8.	Develop training material to support the use of the manpoer planning process.	April 16, 2001	May 11, 2001
9.	Train individual departments on the manpower planning process and the use of the time collection system.	May 14, 2001	July 27, 2001
10.	Use the manpower planning process to enhance the annual budgeting process.	May 1, 2001	August 31, 2001.
11.	Accept plan for providing IT support for manpower planning program.		December 15, 2000
12.	Develop specification for transferring manpower planning model to the PGW network.	December 18, 2000	January 22, 2001
13.	Develop specification for time collection	December 18, 2000	January 22, 2001
14.	Develop specification for the data translator to transfer departmental data to corporate man hour reporting databases	December 18, 2000	January 22, 2001
15.	Develop specification for report databases.	December 18, 2000	January 22, 2001

Exhibit XV-1 (continued)

Proposed Project Schedule

Project Activities		Target Dates	
		Start	Complete
16.	Review specifications with management and develop a consensus that the specifications as written define the manpower planning program purpose and objectives.	January 22, 2000	January 26, 2001
17.	Transfer the manpower-planning model to the PGW network.	January 29, 2001	February 16, 2001
18.	Develop the input mechanism for the time collection process.	January 29, 2001	March 16, 2001
19.	Develop the time collection translation process to translate individual department time collection to the PGW time collection databases.	February 19, 2001	March 30, 2001
20.	Develop the time collection databases	February 19, 2001	March 30, 2001
21.	Develop time collection test plan and test the time collection process and database components.	April 2, 2001	April 30, 2001
22.	Refine time collection process and database components as needed based on system operations test.	April 9, 2001	April 30, 2001
23.	Support training program development	April 16, 2001	May 11, 2001
24.	Support system training and operation as required to ensure a September 1, 2001 initial operation.	May 14, 2001	August 31, 2001
25.	Start of the annual Budget Process	May 1, 2001	
26.	Use the manpower planning process to improve the PGW budget process	May 1, 2001	August 31, 2001
27.	Manpower planning and reporting process operational		September 1, 2001
28.	Start monthly manpower performance evaluation	September 1, 2001	
29.	Start ongoing collection of actual manpower data and start variance analysis.	September 1, 2001	
30.	Plan man-hour allocations as needed to improve resource utilization.	September 1, 2001	

The plan includes the following tasks:

Task 1. Provide direction and accountability for the manpower-planning project.

- Provide the project with senior management sponsorship and oversight.
- Assign a senior manager as the manpower-planning champion.
- Provide the resources needed to successfully complete the project.
- Conduct ongoing management review meetings.

Task 2. Identify the work activities that are important to the success of the individual departments activities.

- Introduce the planning process to the individual departments and sections.
- Identify the major work activities performed by each individual department. The work activities will be the basis for the planning process.
- Work with the IT department to uniquely identify the work activities in the manpower planning process and the man-hour reporting process.

Task 3. Take the steps needed to prepare the individual departments for the introduction of the manpower planning and reporting process.

- Identify individuals in each department and section responsible for data reporting and analysis activities.
- Develop the training materials needed to prepare department personnel for the manpower planning and reporting process.
- Conduct employee training as needed to prepare employees to support the planning and time reporting process.

Task 4. Have the IT department develop the applications needed to implement the manpower planning and reporting program.

- Develop the specifications needed to define the manpower planning time collection and performance analysis and reporting applications.
- Develop the configuration management program needed to manage the applications and operation of the manpower planning and reporting program.
- Review specifications with PGW management and get approval for the development phase of the project.

- Develop the applications needed for the manpower planning, time collection, performance analysis and reporting.

Task 5. Test the manpower planning and reporting program and rollout the program to the PGW organization.

- Develop the manpower planning and reporting test program.
- Test the manpower-planning program in accordance with the defined test program.
- Support the training and implantation activities needed to implement the program.

Task 6. Use the manpower planning and reporting process to improve corporate planning and resource management.

- Use the planning process to support the annual budgeting process.
- Use the manpower resource planning and reporting process to improve PGW resource allocation.

D. MANPOWER PLANNING MODEL

The Manpower Planning Model (MPM) is a tool that can be used by PGW's managers to forecast workload and develop staffing plans. The model is intended to assist the managers by compiling estimates for activities in each of the major work categories. Staffing requirements are then determined based on an iterative process of analyzing schedules and employee utilization and prioritizing work. The real value of the model is not only its ability to help predict optimum staffing levels, but to provide managers with the capability to evaluate different assumptions and scenarios. By using the model the managers can assess the impact of staffing decisions on key variables such as overtime per person.

The MPM operates on an IBM-compatible personal computer, using the spreadsheet program Microsoft Excel. These instructions assume that the user is familiar with the basics of Microsoft Excel and can load the model and enter data as directed. Learning the spreadsheet program is simple, using the extensive instructional material provided with the software package.

The first step in using the MPM is to enter onto the spreadsheet the hours that have been estimated for all direct work that is expected to be worked on during the next year. These estimates will normally be developed as part of the annual budgeting process. As a result, they will probably be recorded on some type of budgeting input or control sheet. By entering onto the spreadsheet the monthly estimates of direct work man-hours, the manager can determine:

- Total man-hours required for each direct work activity,

- Total direct work man-hours required for each month, and

- Total direct work man-hours required for the year.

The MPM will not automatically level the direct work workload. However, changing project schedules, revising estimates, or reallocating man-hours at the manager's discretion may eliminate peaks and valleys. The effect of any such change can be evaluated by reviewing the graph after modifying the entries on the spreadsheet.

The second step in using the MPM is to forecast indirect work. As a starting point, the manager can use historical information from the time reporting database. If it is assumed that next year's indirect work requirements will be approximately the same as last year's, the manager can enter onto the spreadsheet the total number of hours for each activity. The model will automatically spread the hours evenly over all twelve months. The manager may choose to forecast an increase or decrease in any or all indirect work activities. The manager may also add or delete an activity. In any case, once the total number of man-hours has been entered, the model will automatically spread them.

Because it is not likely that indirect work man-hours will be expended evenly during the year, the model has been designed to allow the manager to adjust monthly entries as desired. After the total hours for each indirect work activity have been entered, the manager may change the number of hours in any month. The model will calculate the adjusted total for comparison against the originally entered total.

The MPM will not automatically level the indirect work man-hours, but reallocating man-hours at the manager's discretion may eliminate peaks and valleys. The effect of any such change can be evaluated by reviewing the graph after modifying the entries on the spreadsheet.

After direct and indirect work man-hours have been entered, the model will automatically combine these hours. Based on this total of direct and indirect work, the manager may wish to further modify the entries on the spreadsheet. The effect of any further changes can be evaluated by reviewing the information after modifying the entries on the spreadsheet.

Utilization is defined as the percentage of time that an employee is able to devote to the primary work activities; i.e., direct and indirect work. Utilization is calculated by dividing the sum of direct and indirect hours by total hours, as shown below:

(direct + indirect)/(direct + indirect + administrative & non-work)

By using either a historical or forecasted utilization percentage, the manager can complete the workload forecast and determine:

- Total administrative and non-work man hours and

- Total forecast man-hours.

The manager must enter an annual utilization percentage, expressed in decimal format, to begin the process. The model will automatically apply this percentage to each

month on the spreadsheet. The manager may choose to adjust the utilization percentage in any month as desired. The model will calculate the adjusted annual utilization percentage for comparison against the originally entered percentage.

Based on the utilization percentage, the model will calculate administrative and non-work hours and total forecast hours. Based on this information, the manager may wish to further modify the entries on the spreadsheet. The effect of any further changes can be evaluated by reviewing the information after modifying the entries on the spreadsheet.

Based on total forecast hours, the model can determine the equivalent staffing required in each month. This is accomplished by dividing the total forecasted man-hours in each month by the respective number of man-hours per month. Man-hours per month can be calculated by multiplying the total number of weekdays in the month by the standard, or desired, workday duration. The manager can then compare equivalent staffing to existing staffing. Once a number for current staffing is entered, the model will automatically apply the same value to each month on the spreadsheet. Anticipated changes to existing staffing should be entered as applicable.

Analysis of overtime is probably the most effective means of evaluating the adequacy of staffing levels. After total forecast hours have been determined, and existing staffing has been entered, the model will calculate available hours, overtime hours and overtime per person. Based on this information, the manager may wish to further modify the entries on the spreadsheet. The effect of any further changes can be evaluated by reviewing the information after modifying the entries on the spreadsheet.

The results of the MPM is useful in many ways. Once the manager has completed an acceptable staffing plan, the results can be used for planning and budgeting. The results may also be useful as the basis for discussions or decisions concerning changes in staffing levels. Because the process of using the model includes forecasting the workload, the results will also be useful as a tool for assigning projects and other work to employees.

F. COST AND BENEFIT ANALYSIS

1. The manpower planning and reporting project will provide PGW with a net positive benefit that can be directly related to improved performance and significant cost savings through staff reductions, increased productivity, and cost avoidance.

    - PGW estimates the cost for the development and the installation of the manpower planning and reporting process as $400,000 to $500,000.

    - Outside consultant support for the development and implementation of the manpower planning and reporting program is estimated at $20,000 to $25,000 per month for ten months, for a total estimate of $200,000 to $250,000.

- Benefits will accrue to PGW as it will be able to better align its work-load with available resources. The improved alignment will directly translate into reductions in labor costs. It is estimated that better manpower planning and utilization will result in a ten percent reduction in staffing costs within five years.

- For a one-time investment of $600,000 to $750,000, PGW should receive recurring annual savings approximating $10 million beginning in the fiscal year ending August 31, 2002.

2. The comprehensive manpower-planning program will also provide PGW with a number of indirect benefits.

   - Manpower planning will improve efficiency and effectiveness in the use of PGW's human resources. Maximum benefits will be derived from this program if PGW management personnel are directly involved in the development process. Their involvement will ensure that the program reflects PGW needs and resources and that key managers will know how to use the program when it is fully implemented.

   - Manpower planning will support the PGW budgeting process by identifying the staffing requirements for planned activities. In addition manpower planning will provide a tool to assist management in its determination of the time frame for activities consistent with the company's ability to finance the work.

   - Employee utilization will be improved because PGW managers will have the tools to monitor and direct resource distribution. Efficiency will be improved by getting more work or higher quality work done with the same number of people. Effectiveness will be improved by focusing available man-hours on higher priority tasks and eliminating less important or unnecessary work.

   - PGW will be able to determine the optimum number of personnel for each area or function, which, in today's changing environment, may be more, less or the same as the current staffing level.

   - Manpower planning provides PGW with the tools needed to benchmark its efforts against the work efforts of other utilities. In addition, PGW will be able to develop internal benchmarks for similar activities performed by various groups. Benchmark data developed from consistent reporting will give PGW management the information needed to better negotiate with its union to better define the company's work rules.

Appendix A

Statistical Comparison

Section 1
Philadelphia Gas Works Data
Years Ending August 31

Philadelphia Gas Works	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Gross Utility Plant	1,110,776,000	1,131,941,000	1,178,450,000	1,230,152,000	1,264,648,000	3.30
Dep. & Amort.	357,849,000	383,259,000	414,941,000	449,765,000	478,492,000	7.53
Net Utility Plant	$752,927,000	$748,682,000	$763,509,000	$780,387,000	$786,156,000	1.09
Annual Cost of Capital	6.025%	6.027%	6.104%	5.961%	5.499%	-2.26
Operating Revenue						
Residential	335,691,822	382,573,804	389,225,903	354,500,932	348,335,531	0.93
Commercial & Industrial	140,602,477	155,437,091	157,788,161	141,225,830	130,989,111	-1.75
Other	2,655,701	38,037,105	3,955,936	16,076,238	7,560,358	29.89
Transportation	0	0	0	0	0	0.00
Total Revenue	$478,950,000	$576,048,000	$550,970,000	$511,803,000	$486,885,000	0.41
Throughput (MCF)						
Residential	43,746,500	51,330,561	46,808,910	41,620,564	41,626,488	-1.23
Comm / Industrial	24,062,861	24,493,241	23,071,647	21,659,115	20,471,855	-3.96
Sales for resale						NM
Other Sales						NM
Total	67,809,361	75,823,802	69,880,557	63,279,679	62,098,343	-2.18
Transportation	6,408,340	4,484,474	2,312,905	8,266,308	13,619,422	20.74
Total Sales	74,217,701	80,308,276	72,193,462	71,545,987	75,717,765	0.50
Unaccounted gas (MCF)	2,322,392	2,826,049	3,290,921	2,241,842	2,718,798	4.02
Percent of total throughput	3.13%	3.52%	4.56%	3.13%	3.59%	3.50
Customers						
Residential	492,601	490,614	486,716	487,876	485,995	-0.34
Commercial & Industrial	24,491	24,352	24,621	24,413	26,428	1.92
Other	0	0	0	0	0	NM
Total	517,092	514,966	511,337	512,289	512,423	-0.23
Employees	2,060	1,986	1,988	1,968	1,873	-2.35
Payroll	$101,391,688	$96,290,335	$98,553,661	$96,379,779	$94,818,378	-1.66
Sq. Miles Service Territory	129	129	129	129	129	0.00
Distribution Mains (M. Ft.)	15,913,920	15,924,480	15,866,400	15,866,400	15,887,520	-0.04
Transmission Mains (M.Ft.)	5,280	5,280	5,280	5,280	5,280	0.00
Total Main Pipeline	15,919,200	15,929,760	15,871,680	15,871,680	15,892,800	-0.04
Total Main Pipeline (mi)	3015.00	3017.00	3006.00	3006.00	3010.00	-0.04

NM = not meaningful

Section 1
Philadelphia Gas Works Data
Years Ending August 31

Philadelphia Gas Works	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Services	507,457	508,734	510,800	511,545	506,690	-0.04
Gas Sales (Mcf)						
Gas Sales (Firm) Mcf	56,209,979	65,371,052	59,670,790	53,560,038	53,685,231	-1.14
Gas Sales (Interrup) Mcf	11,563,009	10,353,989	10,066,123	9,878,557	8,441,396	-7.57
Gas Sales Transp (Mcf)	6,408,340	4,484,474	2,312,905	8,266,308	13,619,422	20.74
Unbilled Adjustment (Mcf)	36,373	98,760	143,644	-158,918	-28,284	NM
Utility Use (Mcf)	83,935	74,045	79,372	71,049	67,361	-5.35
Total Gas Unaccounted For	2,322,392	2,826,049	3,290,921	2,241,842	2,718,798	4.02
Total Gas Sendout	76,624,028	83,208,369	75,563,755	73,858,876	78,503,924	0.61

NM = not meaningful

Section 1
Philadelphia Gas Works Data
Year Ending August 31

Philadelphia Gas Works	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Gas Production & Gathering						
Operation (750-760)	$ -	$ -	$ -	$ -	$ -	
Maintenance (761 - 769)	-	-	-	-	-	
Total	$ -	$ -	$ -	$ -	$ -	
Products Extraction						
Operation (770 - 783)	$ -	$ -	$ -	$ -	$ -	
Maintenance (784 - 791)	-	-	-	-	-	
Total	$ -	$ -	$ -	$ -	$ -	
Explor. & Devel. (795 - 798)	$ -	$ -	$ -	$ -	$ -	
Other Gas Supply Expense						
Purchased Gas (800 - 805)	206,776,485	281,169,025	269,844,589	244,778,536	220,121,231	1.58%
Exchange Gas (806)						
Purch. Gas Exp. (807.1 - 807.5)	5,281,687	8,181,687	8,834,295	7,413,608	7,305,405	8.45%
Utility Operations (808 - 812)	-5,043,118	-23,265,888	-19,276,163	-16,504,466	-19,462,460	40.16%
Other Gas Supply Expense (813)	7,043,996	11,143,525	12,246,918	11,885,870	11,811,254	13.79%
Total	$ 214,059,050	$ 277,228,349	$ 271,649,639	$ 247,573,548	$ 219,775,430	0.66%
Under-Ground Storage						
Operation (814 - 826)	$ -	$ -	$ -	$ -	$ -	
Maintenance (830 - 837)	-	-	-	-	-	
Total	$ -	$ -	$ -	$ -	$ -	
Production & Storage	$ 214,059,050	$ 277,228,349	$ 271,649,639	$ 247,573,548	$ 219,775,430	0.66%
Local Storage						
Operation (840 - 842)	4,534,955	4,208,196	4,398,122	3,991,582	4,026,949	-2.93%
Maintenance (843 - 846)	7,943,795	6,275,794	5,947,801	5,164,887	5,689,712	-8.00%
Total	$ 12,478,750	$ 10,483,990	$ 10,345,923	$ 9,156,469	$ 9,716,661	-6.06%
Transmission						
Operation (850 - 860)	678,444	558,786	598,896	460,436	619,586	-2.24%
Maintenance (861 - 867)	-	-	-	-	-	
Total	$ 678,444	$ 558,786	$ 598,896	$ 460,436	$ 619,586	-2.24%
Distribution						
Operation (870 - 881)	22,332,940	23,445,310	25,203,145	23,203,985	25,756,154	3.63%
Maintenance (885 - 894)	17,612,492	20,237,783	16,780,086	12,014,850	9,808,614	-13.61%
Total	$ 39,945,432	$ 43,683,093	$ 41,983,231	$ 35,218,835	$ 35,564,768	-2.86%
Customer Account (901 - 905)	70,859,427	65,620,337	61,981,889	62,625,721	68,046,603	-1.01%
Cust. Service & Info (906 - 910)	5,780,929	5,269,068	5,703,041	6,566,790	5,978,964	0.85%
Sales (911 - 916)	$ -	$ -	$ -	$ -	$ -	
Administration & General						
Operation (920 - 931)	49,891,318	53,614,995	50,695,415	46,916,540	50,936,005	0.52%
Maintenance (932)	-	-	-	-	-	
Total	$ 49,891,318	$ 53,614,995	$ 50,695,415	$ 46,916,540	$ 50,936,005	0.52%
Total Gas O&M	$ 393,693,350	$ 456,458,618	$ 442,958,034	$ 408,518,339	$ 390,638,017	-0.19%

NM = not meaningful

Section 1
Philadelphia Gas Works Data
Year Ending August 31

Philadelphia Gas Works	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Utility Cost by Category						
Electricity	$ 2,245,823	$ 2,521,554	$ 1,805,956	$ 1,888,980	$ 1,822,483	-5.09%
In-House Use of Natural Gas	$ 286,042	$ 229,756	$ 274,418	$ 266,427	$ 247,550	-3.55%
Water & Sewer	$ 289,336	$ 261,257	$ 192,416	$ 196,916	$ 272,773	-1.46%
Total	$ 2,821,201	$ 3,012,567	$ 2,272,790	$ 2,352,323	$ 2,342,806	-4.54%
Average Monthly Cost of Gas Del.	$ 17,793,583	$ 23,047,833	$ 22,635,583	$ 20,558,250	$ 18,256,750	0.64%

NM = not meaningful

Section 1
Philadelphia Gas Works Data
Years Ending August 31

Philadelphia Gas Works	1995	1996	1997	1998	1999	Compound Growth %
System Information						
Unprotected bare steel main (mi.)	0	0	0	0	0	0.00%
Cast iron main (mi.)	1,788	1,778	1,766	1,758	1,751	-0.52%
Other main (mi.)	1,227	1,239	1,240	1,248	1,259	0.65%
Total main (mi.)	3,015	3,017	3,006	3,006	3,010	-0.04%
DOT Main Incidents	0	1	1	0	1	NM
Main Leaks						
Corrosion	129	156	79	80	97	-6.88%
Third party	18	16	21	18	17	-1.42%
Outside forces	1,944	1,733	1,611	1,338	1,901	-0.56%
Construction defect	5	27	21	18	3	-11.99%
Material defect	4	14	9	11	2	-15.91%
Other	185	277	170	106	66	-22.72%
Total	2,285	2,223	1,911	1,571	2,086	-2.25%
Number of Services						
Unprotected bare steel services	256,265	246,861	239,131	234,524	223,851	-3.32%
Other services	251,192	261,873	271,669	277,021	282,839	3.01%
Total Services	507,457	508,734	510,800	511,545	506,690	-0.04%
DOT Service Incidents						
Service Leaks						
Corrosion	5,738	6,532	4,625	4,266	4,340	-6.74%
Third party	145	102	137	138	145	0.00%
Outside forces	0	0	0	15	24	NM
Construction defect	5	0	0	0	0	NM
Material defect	10	0	0	23	90	73.21%
Other	12	69	83	36	6	-15.91%
Total	5,910	6,703	4,845	4,478	4,605	-6.05%
Utility Plant In Service						
Gross Utility Plant-in-Service						
Total Production Plant	$ 126,199,018	$ 122,033,328	$ 122,310,777	$ 122,302,955	$ 130,545,183	0.85%
Total Storage Plant	$ 88,598,278	$ 88,445,237	$ 88,556,683	$ 88,710,287	$ 92,537,021	1.09%
Total Distribution Plant	$ 733,183,276	$ 768,614,431	$ 806,796,036	$ 835,595,216	$ 893,751,909	5.08%
Total General Plant	$ 100,009,319	$ 95,401,296	$ 96,281,241	$ 101,575,104	$ 147,813,851	10.26%
Unclassified	$ 62,785,910	$ 57,446,965	$ 61,947,236	$ 81,641,982	$ -	NM
Total Utility Plant in Service	1,110,775,801	1,131,941,257	1,175,891,973	1,229,825,544	1,264,647,964	3.30%
Construction Work in Progress	$ 13,981,585	$ 24,259,860	$ 25,269,739	$ 40,979,508	$ 70,294,000	49.74%
Total Utility Plant	1,124,757,386	1,156,201,117	1,201,161,712	1,270,805,052	1,334,941,964	4.38%

NM = not meaningful

Section 1
Philadelphia Gas Works Data
Years Ending August 31

Philadelphia Gas Works	1995	1996	1997	1998	1999	Compound Growth %
Rates of Dep by Asset Class						
Total Production Plant	6.19%	6.19%	6.19%	6.19%	2.39%	-21.17%
Total Storage Plant	3.67%	3.67%	3.67%	3.67%	2.40%	-10.07%
Total Distribution Plant	2.54%	2.54%	2.54%	2.54%	2.20%	-3.53%
Total General Plant	6.57%	6.57%	6.57%	6.57%	4.31%	-10.00%
Total Plant Dep Percent	3.35%	3.35%	3.35%	3.35%	2.43%	-7.68%

NM = not meaningful

Section 2
Panel Characteristics Year Ending 1999

ELEMENT	PGW	Pennsylvania Panel			
		PECO	EGC	PNG	UGI
Number of customers	512,423	383,856	225,023	351,339	331,107
5 yr. growth rate	-0.23%	3.03%	-2.26%	0.96%	2.18%
% Residential	95%	86%	95%	92.0%	89.2%
Total thruput (MCF)	62,098	52,249	21,625	25,288	31,207
5 yr. growth rate	-2.18%	1.97%	-11.73%	-14.97%	-1.91%
MCF/Residential cust.	86	104	88	67	75
% transportation	17.9%	44.1%	28.0%	64.3%	59.9%
5 yr. growth rate	20.74%	-0.83%	-7.37%	13.54%	3.43%
Degree days	3886				
Number of employees	1,873	800	770	890	934
Miles of dist. main	3,010	5,980	3032	6,243	4,360
Miles of trans. main	1	27	16	450	107
Services	506,690	366,320	250,636	337,098	274,149
Net Plant ($Mil)	$ 786	$ 872	$ 417	$ 449	$ 553
Net plt/gross plt	62.2%	73.5%	68.9%	65.1%	69.2%
Customers/main mile	170	64	74	56	76
Avg. Rev./ Res. Cust	$ 717	$ 871	944	524	677
Avg. Rev./Res. MCF	$ 8.37	$ 8.42	10.70	7.77	9.08

PGW = Philadelphia Gas Works
PECO = PECO Energy
EGC = Equitable Gas Company
PNG = Peoples Natural Gas
UGI = UGI Utilities

NM = not meaningful

Section 2
Panel Characteristics Year Ending 1999

ELEMENT	PGW	Regional Panel		
		BUG	BG	WGL
Number of customers	512,423	1,144,181	531,878	755,187
5 yr. growth rate	-0.23%	0.36%	0.80%	0.81%
% Residential	95%	96%	93%	94%
Total thruput (MCF)	62,098	123,566	72,142	878,273
5 yr. growth rate	-2.18%	-6.35%	-6.49%	-9.85%
MCF/Residential cust.	86	80	80	84
% transportation	17.9%	31%	44%	7%
5 yr. growth rate	20.74%	40.21%	4.41%	-8.06%
Degree days	3886			
Number of employees	1,873	2,607	1,353	1,831
Miles of dist. main	3,010	3,798	5,982	10,380
Miles of trans. main	1	245	2	NM
Services	506,690	1,144,181	421,972	754,634
Net Plant ($Mil)	$ 786	$ 1,491	$ 570	$ 1,357
Net plt/gross plt	62.2%	73.0%	59.5%	68.0%
Customers/main mile	170	301	89	73
Avg. Rev./ Res. Cust	$ 717	$ 772	$ 722	$ 686
Avg. Rev./Res. MCF	$ 8.37	$ 9.64	$ 9.08	NM

PGW = Philadelphia Gas Works
BUG = Brooklyn Union Gas
BG = Boston Gas
WGL = Washington Gas Light

NM = not meaningful

Section 3
Panel Comparison Data

Administration & General Exp/ Customer	1995	1996	1997	1998	1999	CGR
PGW	$ 96	$ 104	$ 99	$ 92	$ 99	0.89%
Panel Average (all)	$ 116	$ 113	$ 104	$ 117	$ 98	-4.15%
Panel Avg. (PA)	$ 112	$ 102	$ 101	$ 130	$ 93	-4.54%
Panel Avg. (Regional)	$ 119	$ 123	$ 107	$ 103	$ 102	-3.78%
Panel Low	$ 73	$ 69	$ 73	$ 72	$ 44	-11.89%
Panel Low Company	PECO	PECO	PECO	PECO	PECO	
Panel High	$ 148	$ 147	$ 134	$ 256	$ 129	-3.38%
Panel High Company	PNG	WGL	EGC	EQG	PNG	

Operations & Maintenance Exp./Cust.	1995	1996	1997	1998	1999	CGR
PGW	$ 761	$ 886	$ 866	$ 797	$ 763	0.05%
Panel Average (all)	$ 889	$ 996	$ 961	$ 830	$ 776	-3.34%
Panel Avg. (PA)	$ 933	$ 1,010	$ 978	$ 849	$ 765	-4.84%
Panel Avg. (Regional)	$ 844	$ 982	$ 944	$ 810	$ 786	-1.76%
Panel Low	$ 734	$ 776	$ 728	$ 578	$ 573	-6.00%
Panel Low Company	BUG	PECO	PNG	PNG	PNG	
Panel High	$ 1,191	$ 1,434	$ 1,349	$ 1,268	$ 938	-5.80%
Panel High Company	EGC	EGC	EGC	EGC	EGC	

Net Plant/ Customer	1995	1996	1997	1998	1999	CGR
PGW	$ 1,456	$ 1,454	$ 1,493	$ 1,523	$ 1,535	1.32%
Panel Average (all)	$ 1,486	$ 1,509	$ 1,553	$ 1,611	$ 1,628	2.31%
Panel Avg. (PA)	$ 1,828	$ 1,808	$ 1,851	$ 1,905	$ 1,863	0.48%
Panel Avg. (Regional)	$ 1,143	$ 1,209	$ 1,254	$ 1,316	$ 1,392	5.05%
Panel Low	$ 982	$ 1,002	$ 1,022	$ 1,057	$ 1,073	2.24%
Panel Low Company	BGC	BGC	BGC	BGC	BGC	
Panel High	$ 2,226	$ 2,141	$ 2,251	$ 2,245	$ 2,273	0.52%
Panel High Company	UGI	PECO	PECO	PECO	PECO	

Payroll/Employee	1995	1996	1997	1998	1999	CGR
PGW	$ 49,219	$ 48,485	$ 49,574	$ 48,973	$ 50,624	0.71%
Panel Average (all)	$ 42,806	$ 47,133	$ 49,634	$ 48,917	$ 50,649	4.30%
Panel Avg. (PA)	$ 33,690	$ 40,228	$ 43,241	$ 41,572	$ 44,191	7.02%
Panel Avg. (Regional)	$ 51,922	$ 54,037	$ 56,026	$ 56,262	$ 57,107	2.41%
Panel Low ($K)	$ 35,670	$ 35,670	$ 34,470	$ 34,470	$ 42,931	4.74%
Panel Low Company	UGI	UGI	UGI	UGI	PECO	
Panel High ($K)	$ 60,112	$ 60,112	$ 65,831	$ 64,240	$ 64,426	1.75%
Panel High Company	BUG	BUG	BUG	BGC	BGC	

CGR = Compound Growth Rate

O&M Expense/ Operating Revenue	1995	1996	1997	1998	1999	CGR
PGW	$ 0.82	$ 0.79	$ 0.80	$ 0.80	$ 0.80	-0.62%
Panel Average (all)	$ 0.75	$ 0.75	$ 0.75	$ 0.77	$ 0.72	-1.02%
Panel Avg. (PA)	$ 0.76	$ 0.72	$ 0.72	$ 0.74	$ 0.67	-3.10%
Panel Avg. (Regional)	$ 0.74	$ 0.77	$ 0.77	$ 0.79	$ 0.77	1.00%
Panel Low	$ 0.67	$ 0.65	$ 0.66	$ 0.67	$ 0.61	-2.32%
Panel Low Company	PECO	PECO	PGC	BUG	PECO	
Panel High	$ 0.90	$ 0.81	$ 0.82	$ 0.94	$ 0.89	-0.28%
Panel High Company	EGC	BGC	EGC	WGL	WGL	

Net Plant/ Operating Revenue	1995	1996	1997	1998	1999	CGR
PGW	$ 1.57	$ 1.30	$ 1.39	$ 1.52	$ 1.61	0.63%
Panel Average (all)	$ 1.26	$ 1.15	$ 1.22	$ 1.50	$ 1.51	4.65%
Panel Avg. (PA)	$ 1.49	$ 1.34	$ 1.40	$ 1.70	$ 1.64	2.43%
Panel Avg. (Regional)	$ 1.02	$ 0.95	$ 1.03	$ 1.30	$ 1.37	7.65%
Panel Low	$ 0.78	$ 0.75	$ 0.77	$ 0.92	$ 0.99	6.14%
Panel Low Company	BGC	BGC	BGC	BGC	BGC	
Panel High	$ 1.75	$ 1.79	$ 1.85	$ 2.15	$ 1.95	2.74%
Panel High Company	PECO	PECO	PECO	PECO	PECO	

O&M Expense/ Net Plant	1995	1996	1997	1998	1999	CGR
PGW	$ 0.52	$ 0.61	$ 0.58	$ 0.52	$ 0.50	-0.98%
Panel Average (all)	$ 0.84	$ 0.84	$ 0.81	$ 0.75	$ 0.75	-2.96%
Panel Avg. (PA)	$ 0.53	$ 0.57	$ 0.54	$ 0.45	$ 0.42	-5.65%
Panel Avg. (Regional)	$ 1.15	$ 1.10	$ 1.07	$ 1.05	$ 1.07	-1.79%
Panel Low	$ 0.38	$ 0.36	$ 0.37	$ 0.32	$ 0.31	-4.96%
Panel Low Company	PECO	PECO	PECO	PECO	PECO	
Panel High	$ 1.73	$ 1.47	$ 1.53	$ 1.80	$ 1.98	3.43%
Panel High Company	WGL	WGL	WGL	WGL	WGL	

Production & Storage Exp./ Net Plant	1995	1996	1997	1998	1999	CGR
PGW	$ 0.28	$ 0.37	$ 0.36	$ 0.32	$ 0.28	0.00%
Panel Average (all)	$ 0.48	$ 0.54	$ 0.52	$ 0.41	$ 0.39	-5.36%
Panel Avg. (PA)	$ 0.36	$ 0.42	$ 0.40	$ 0.28	$ 0.26	-7.81%
Panel Avg. (Regional)	$ 0.60	$ 0.66	$ 0.64	$ 0.54	$ 0.51	-3.98%
Panel Low	$ 0.28	$ 0.27	$ 0.28	$ 0.24	$ 0.25	-2.79%
Panel Low Company	PECO	PECO	PECO	PECO	PECO	
Panel High	$ 0.75	$ 0.80	$ 0.76	$ 0.73	$ 0.74	-0.34%
Panel High Company	BGC	BGC	WGL	WGL	WGL	

CGR = Compound Growth Rate

Section 3

Panel Comparison Data

Operations & Maintenance Exp/MCF	1995	1996	1997	1998	1999	CGR
PGW	$ 5.30	$ 5.68	$ 6.14	$ 5.71	$ 5.16	-0.67%
Panel Average (all)	$ 3.41	$ 3.69	$ 3.87	$ 3.58	$ 3.31	-0.78%
Panel Avg. (PA)	$ 3.87	$ 4.10	$ 4.36	$ 4.29	$ 3.91	0.26%
Panel Avg. (Regional)	$ 2.95	$ 3.27	$ 3.38	$ 2.87	$ 2.70	-2.19%
Panel Low	$ 2.93	$ 2.76	$ 3.25	$ 3.04	$ 2.84	-0.78%
Panel Low Company	UGI	PECO	PNG	UGI	PNG	
Panel High	$ 6.21	$ 6.98	$ 7.65	$ 7.82	$ 6.98	2.97%
Panel High Company	EGC	EGC	EGC	EGC	EGC	

Net Plant/ MCF	1995	1996	1997	1998	1999	CGR
PGW	$ 10.14	$ 9.32	$ 10.58	$ 10.91	$ 10.38	0.59%
Panel Average (all)	$ 4.61	$ 4.56	$ 5.01	$ 5.63	$ 5.46	4.35%
Panel Avg. (PA)	$ 5.41	$ 5.21	$ 5.68	$ 6.51	$ 6.19	3.42%
Panel Avg. (Regional)	$ 3.80	$ 3.91	$ 4.33	$ 4.74	$ 4.73	5.63%
Panel Low	$ 0.69	$ 0.73	$ 0.99	$ 1.33	$ 1.44	20.19%
Panel Low Company	WGL	WGL	WGL	EGC	WGL	
Panel High	$ 7.89	$ 7.63	$ 8.81	$ 10.09	$ 9.34	4.31%
Panel High Company	PECO	BUG	PECO	PECO	PECO	

Trans. & Distr. Exp./Trans. & Distr. mile	1995	1996	1997	1998	1999	CGR
PGW	$ 13,474	$ 14,664	$ 14,166	$ 11,869	$ 12,021	-2.81%
Panel Average (all)	$ 10,310	$ 10,289	$ 9,884	$ 9,137	$ 9,285	-2.58%
Panel Avg. (PA)	$ 5,848	$ 5,324	$ 5,180	$ 5,560	$ 6,237	1.62%
Panel Avg. (Regional)	$ 14,771	$ 15,254	$ 14,587	$ 12,713	$ 12,333	-4.41%
Panel Low	$ 4,336	$ 3,815	$ 3,569	$ 3,006	$ 2,749	-10.77%
Panel Low Company	PNG	PNG	PNG	PECO	PECO	
Panel High	$ 29,809	$ 30,284	$ 29,261	$ 24,472	$ 22,649	-6.64%
Panel High Company	BUG	BUG	BUG	BUG	BUG	

Unprotected bare steel main %	1995	1996	1997	1998	1999	CGR
PGW	0%	0%	0%	0%	0%	0.00%
Panel Average (all)	17%	18%	15%	20%	16%	-0.77%
Panel Avg. (PA)	24%	24%	20%	22%	21%	-3.28%
Panel Avg. (Regional)	9%	12%	9%	17%	11%	5.14%
Panel Low	3%	3%	3%	3%	3%	0.00%
Panel Low Company	WGL	WGL	WGL	WGL	WGL	
Panel High	40%	40%	37%	36%	36%	-2.60%
Panel HIgh Company	EGC	EGC	PNG	PNG	PNG	

CGR = Compound Growth Rate

Cast iron main %	1995	1996	1997	1998	1999	CGR
PGW	59%	59%	59%	58%	58%	-0.43%
Panel Average (all)	20%	15%	19%	21%	14%	-8.78%
Panel Avg. (PA)	8%	8%	8%	8%	7%	-3.28%
Panel Avg. (Regional)	31%	21%	30%	33%	20%	-10.38%
Panel Low	1%	1%	1%	1%	1%	0.00%
Panel Low Company	PNG	PNG	PNG	PNG	PNG	
Panel High	45%	44%	43%	43%	43%	-1.13%
Panel High Company	BGC	BGC	BGC	BGC	BGC	

Leaks / 100 main mile	1995	1996	1997	1998	1999	CGR
PGW	76	74	64	52	69	-2.39%
Panel Average (all)	70	81	71	87	62	-2.81%
Panel Avg. (PA)	88	101	82	78	77	-3.28%
Panel Avg. (Regional)	51	60	60	96	47	-2.02%
Panel Low	20	20	20	18	4	-33.13%
Panel Low Company	WGL	WGL	WGL	WGL	WGL	
Panel High	103	191	133	124	149	9.67%
Panel High Company	UGI	UGI	UGI	UGI	UGI	

Unprotected bare steel service %	1995	1996	1997	1998	1999	CGR
PGW	50%	49%	47%	46%	44%	-3.15%
Panel Average (all)	30%	26%	21%	22%	24%	-2.15%
Panel Avg. (PA)	27%	19%	18%	17%	17%	3.71%
Panel Avg. (Regional)	33%	32%	24%	27%	30%	-2.35%
Panel Low	3%	3%	3%	2%	2%	-9.64%
Panel Low Company	WGL	WGL	WGL	WGL	WGL	
Panel High	64%	63%	62%	61%	60%	-1.60%
Panel High Company	BGC	BGC	BGC	BGC	BGC	

Leaks/1000 services	1995	1996	1997	1998	1999	CGR
PGW	12	13	9	9	9	-6.94%
Panel Average (all)	7	8	7	7	7	-1.84%
Panel Avg. (PA)	8	7	7	6	6	-6.94%
Panel Avg. (Regional)	6	8	6	8	7	3.93%
Panel Low	4	4	4	4	3	-6.94%
Panel Low Company	WGL	WGL	WGL	PECO	EQG	
Panel High	10	11	10	9	12	4.66%
Panel High Company	UGI	UGI	UGI	UGI	UGI	

CGR = Compound Growth Rate

Section 3
Panel Comparison Data

Greatest cause of main leaks/ % of total	1995	1996	1997	1998	1999
PGW	OS Forces	OS Forces	OS Forces	OS Forces	OS Forces
	85%	78%	84%	85%	91%
Total Panel Average	Corrosion	Corrosion	Corrosion	Corrosion	Corrosion
	58%	59%	53%	55%	75%
Pennsylvania Panel Average	Corrosion	Corrosion	Corrosion	Corrosion	Corrosion
	73%	74%	73%	72%	74%
Regional Panel Average	Corrosion	Other	Other	Other	Other
	43%	44%	32%	37%	76%

2nd Greatest cause of main leaks/ % of tot	1995	1996	1997	1998	1999
PGW	Other	Other	Other	Other	Corrosion
	8%	12%	9%	7%	5%
Total Panel Average	Other	Other	Other	Other	Other
	11%	20%	16%	16%	19%
Pennsylvania Panel Average	Other	Other	Other	Other	Other
	22%	21%	20%	21%	17%
Regional Panel Average	Other	Corrosion	Corrosion	Corrosion	Corrosion
	27%	26%	17%	26%	62%

Greatest cause of service leaks/ % of tot	1995	1996	1997	1998	1999
PGW	Corrosion	Corrosion	Corrosion	Corrosion	Corrosion
	97%	97%	95%	95%	94%
Total Panel Average	Corrosion	Corrosion	Corrosion	Corrosion	Corrosion
	66%	65%	60%	57%	59%
Pennsylvania Panel Average	Corrosion	Corrosion	Corrosion	Corrosion	Corrosion
	74%	76%	77%	70%	67%
Regional Panel Average	Corrosion	Corrosion	Corrosion	Corrosion	Corrosion
	58%	54%	42%	43%	51%

2nd greatest cause of serv. leaks/ % of tot	1995	1996	1997	1998	1999
PGW	Third Pty	Third Pty	Third Pty	Third Pty	Third Pty
	2%	2%	3%	3%	3%
Total Panel Average	Third Pty	Third Pty	Third Pty	Third Pty	Third Pty
	28%	26%	20%	21%	29%
Pennsylvania Panel Average	Third Pty	Third Pty	Third Pty	Third Pty	Third Pty
	18%	16%	15%	19%	22%
Regional Panel Average	Third Pty	Third Pty	Third Pty	Third Pty	Third Pty
	38%	36%	24%	22%	35%

DOT main incidents/1,000 main miles	1995-1999
PGW	0.33
Total Panel Average	
Pennsylvania Panel Average	
Regional Panel Average	
Panel Low	
Panel Low Company	
Panel High	
Panel High Company	

DOT Service incidents/million services	1995-1999
PGW	0.00
Total Panel Average	
Pennsylvania Panel Average	
Regional Panel Average	
Panel Low	
Panel Low Company	
Panel High	
Panel High Company	

PECO Energy	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Operating Revenue						
Residential Sales	$ 255,628,780	$ 262,253,610	$ 281,180,760	$ 249,438,229	$ 286,212,555	2.87%
Total Sales	$ 392,242,600	$ 407,719,565	$ 431,112,339	$ 377,487,287	$ 424,460,375	1.99%
Transportation Sales	$ 16,708,031	$ 17,087,612	$ 18,900,993	$ 19,401,031	$ 23,118,406	8.46%
Total Operating Revenue	$ 408,950,631	$ 424,807,177	$ 450,013,332	$ 396,888,318	$ 447,578,781	2.28%
Gross Utility Plant	$ 959,713,649	$ 1,018,160,854	$ 1,096,627,374	$ 1,138,728,522	$ 1,187,607,129	5.47%
Net Utility Plant	$ 717,107,473	$ 759,145,503	$ 832,693,065	$ 852,061,142	$ 872,582,403	5.03%
Total Throughput (MCF)						
Residential	35,004,604	36,351,143	34,487,668	29,560,775	34,000,336	-0.73%
Total Sales	48,334,415	58,720,803	54,561,455	46,363,415	52,249,394	1.97%
Transportation	42,550,090	41,131,290	39,951,729	38,104,833	41,151,553	-0.83%
Total Throughput	90,884,505	99,852,093	94,513,184	84,468,248	93,400,947	0.69%
Customers (Total)	340588	354,625	369,927	379,489	383,856	3.03%
Residential	315,278	318,512	314,335	324,081	328,448	1.03%
Employees	996	929	860	838	800	-5.33%
Payroll	$ 42,136,249	$ 38,913,660	$ 38,347,327	$ 36,000,000	$ 34,344,691	-4.98%
Services	340,588	346,975	353,591	361,672	366,320	1.84%
Feet of dist. main	28,818,240	29,721,120	30,560,640	31,067,520	31,574,400	2.31%
Feet of trans. main	147,840	147,840	142,560	142,560	142,560	-0.91%
Total T&D Main (feet)	28,966,080	29,868,960	30,703,200	31,210,080	31,716,960	2.29%
Total T&D Main (miles)	5,486	5,657	5,815	5,911	6,007	2.29%

NM = not meaningful

PECO Energy	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Gas Production & Gathering						
Operation (750-760)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (761 - 769)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Products Extraction						
Operation (770 - 783)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (784 - 791)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Explor. & Devel. (795 - 798)	$ -	$ -	$ -	$ -	$ -	0.00%
Other Gas Supply Expense						
Purchased Gas (800 - 805)	$ 167,927,057	$ 250,488,626	$ 232,541,590	$ 181,316,194	$ 204,852,405	5.09%
Exchange Gas (806)	$ -	$ -	$ -	$ -	$ -	0.00%
Purchased Gas (807.1 - 807.5)	$ 3,779,472	$ 3,229,493	$ 4,604,435	$ 5,029,585	$ 4,397,325	3.86%
Utility Operations (808 - 812)	$ 6,184,023	$ (19,214,679)	$ 700,843	$ 10,293,789	$ (11,626,502)	NM
Other Gas Supply Expense (813)	$ 19,088,467	$ (33,283,133)	$ (7,950,264)	$ 7,982,358	$ 21,382,933	2.88%
Total	$ 196,979,019	$ 201,220,307	$ 229,896,604	$ 204,621,926	$ 219,006,161	2.69%
Under-Ground Storage						
Operation (814 - 826)	$ 270,511	$ 138,890	$ 15,119	$ -	$ 23,302	8.10%
Maintenance (830 - 837)	$ -	$ 81,253	$ 36,035	$ 88,946	$ 95,578	36.20%
Total	$ 270,511	$ 220,143	$ 51,154	$ 88,946	$ 118,880	10.06%
Production & Storage	$ 197,249,530	$ 201,440,450	$ 229,947,758	$ 204,710,872	$ 219,125,041	2.66%
Local Storage						
Operation (840 - 842)	$ 2,108,707	$ 2,530,195	$ 1,605,879	$ 970,890	$ 1,125,327	-14.53%
Maintenance (843 - 846)	$ 1,319,262	$ 2,189,332	$ 1,701,004	$ 1,297,850	$ 1,447,404	2.34%
Total	$ 3,427,969	$ 4,719,527	$ 3,306,883	$ 2,268,740	$ 2,572,731	-6.92%
Transmission						
Operation (850 - 860)	$ -	$ 497,647	$ 48,691	$ -	$ -	NM
Maintenance (861 - 867)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ 497,647	$ 48,691	$ -	$ -	NM
Distribution						
Operation (870 - 881)	$ 17,325,023	$ 12,152,775	$ 15,170,135	$ 9,422,907	$ 8,757,669	-15.68%
Maintenance (885 - 894)	$ 13,403,653	$ 10,607,708	$ 10,247,936	$ 8,344,986	$ 7,752,873	-12.79%
Total	$ 30,728,676	$ 22,760,483	$ 25,418,071	$ 17,767,893	$ 16,510,542	-14.38%
Total T&D Expense	$ 30,728,676	$ 23,258,130	$ 25,466,762	$ 17,767,893	$ 16,510,542	-14.38%
Customer Account (901 - 905)	$ 14,118,377	$ 14,230,011	$ 13,212,081	$ 15,915,749	$ 13,954,302	-0.29%
Cust. Service & Info(906 - 910)	$ 904,933	$ 3,285,054	$ 4,461,066	$ 1,821,851	$ 67,092	-47.82%
Sales (911 - 916)	$ 3,733,714	$ 3,909,763	$ 3,593,867	$ 976,442	$ 1,733,302	-17.46%
Administration & General						
Operation (920 - 931)	$ 24,556,397	$ 24,244,673	$ 26,922,567	$ 27,386,496	$ 16,983,642	-8.81%
Maintenance (935)	$ 177,277	$ 217,357	$ 42,183	$ -	$ 20	-89.69%
Total	$ 24,733,674	$ 24,462,030	$ 26,964,750	$ 27,386,496	$ 16,983,662	-8.97%
Total Gas O & M	$ 274,896,873	$ 275,304,965	$ 306,953,167	$ 270,848,043	$ 270,946,672	-0.36%

NM = not meaningful

Section 4
Panel Company Data

PECO Energy *System Information*	1995	1996	1997	1998	1999	Compound Growth %
Unpr. bare stl. main (mi.)	343	338	338	411	410	4.56%
Cast iron main (mi.)	932	926	922	920	915	-0.46%
Other main (mi.)	4183	4365	4528	4553	4655	2.71%
Total main (mi.)	5458	5629	5788	5884	5980	2.31%
DOT Main Incidents						
Main Leaks						
Corrosion	2867	2473	2746	2323	2062	-7.91%
Third party	88	91	85	114	143	12.91%
Outside forces	100	128	109	58	110	2.41%
Construction defect	29	20	18	9	17	-12.50%
Material defect	26	44	44	29	39	10.67%
Other	1696	1361	1245	893	295	-35.42%
Total	4806	4117	4247	3426	2666	-13.70%
Number of Services						
Unprotected bare steel services (thousands)	87005	64909	61872	59507	57532	-9.82%
Other services (thousands)	253583	282066	291719	302165	308788	5.05%
Total services (thousands)	340588	346975	353591	361672	366320	1.84%
DOT Service Incidents						
Service Leaks						
Corrosion	1335	1154	1417	901	943	-8.32%
Third party	383	274	270	370	604	12.06%
Outside forces	53	34	24	35	41	-6.22%
Construction defect	52	56	64	47	45	-3.55%
Material defect	47	42	54	42	42	-2.77%
Other	45	65	67	87	112	25.60%
Total	1915	1625	1896	1482	1787	-1.71%

NM = not meaningful

Equitable Gas Company	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Operating Revenue						
Residential Sales	$ 250,679,938	$ 271,636,301	$ 294,307,820	$ 223,302,909	$ 201,150,676	-5.35%
Total Sales	$ 295,310,575	$ 420,877,178	$ 367,733,259	$ 258,015,859	$ 227,083,441	-6.36%
Transportation Sales	$ 31,729,969	$ 17,624,364	$ 34,586,323	$ 43,478,101	$ 67,057,840	20.57%
Total Operating Revenue	$ 327,040,544	$ 438,501,542	$ 402,319,582	$ 301,493,960	$ 294,141,281	-2.62%
Gross Utility Plant	$ 567,893,181	$ 590,855,278	$ 611,225,402	$ 585,560,363	$ 604,642,789	1.58%
Net Utility Plant	$ 418,338,111	$ 429,300,740	$ 438,550,290	$ 413,370,791	$ 416,555,186	-0.11%
Total Throughput (MCF)						
Residential	27,314,790	26,304,571	26,898,302	20,910,480	18,792,787	-8.93%
Total Sales	35,621,724	34,897,335	30,123,352	22,063,829	21,625,779	-11.73%
Transportation	11,695,428	15,655,423	13,080,009	10,985,958	8,611,382	-7.37%
Total Throughput	47,317,152	50,552,758	43,203,361	33,049,787	30,237,161	-10.59%
Customers (Total)	246,562	246,302	245,041	203,952	225,023	-2.26%
Residential	233,319	232,970	233,305	192,559	212,972	-2.26%
Employees	844	822	770	770	770	-2.27%
Payroll	$ 33,477,251	$ 32,329,815	$ 36,944,311	$ 35,556,287	$ 35,154,470	1.23%
Services	253,279	253,715	253,420	254,707	250,636	-0.26%
Feet of dist. main	16,346,880	16,267,680	15,612,960	15,760,800	16,008,960	-0.52%
Feet of trans. main	84,480	84,480	84,480	84,480	84,480	0.00%
Total T&D Main (feet)	16,431,360	16,352,160	15,697,440	15,845,280	16,093,440	-0.52%
Total T&D Main (miles)	3,112	3,097	2,973	3,001	3,048	-0.52%

NM = not meaningful

Equitable Gas Company	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Gas Production & Gathering						
Operation (750-760)	$ 263,243	$ 321,375	$ 318,220	$ 288,061	$ 258,160	-0.49%
Maintenance (761 - 769)	$ 16,180	$ 11,606	$ 6,824	$ 10,870	$ 25,869	12.45%
Total	$ 279,423	$ 332,981	$ 325,044	$ 298,931	$ 284,029	0.41%
Products Extraction						
Operation (770 - 783)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (784 - 791)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Explor. & Devel. (795 - 798)	$ -	$ -	$ -	$ -	$ -	0.00%
Other Gas Supply Expense						
Purchased Gas (800 - 805)	$ 122,814,246	$ 191,531,020	$ 163,323,788	$ 82,854,308	$ 90,385,963	-7.38%
Exchange Gas (806)	$ -	$ -	$ -	$ -	$ -	0.00%
Purchased Gas (807.1 - 807.5)	$ 315,944	$ 90,716	$ 46,643	$ 19,992	$ 25,103	-46.91%
Utility Operations (808 - 812)	$ 5,033,959	$ (8,248,992)	$ 1,003,061	$ 5,296,809	$ (8,170,798)	NM
Other Gas Supply Expense (813)	$ 93,143,838	$ 98,006,698	$ 88,554,412	$ 71,507,183	$ 61,077,528	-10.01%
Total	$ 221,587,410	$ 281,712,423	$ 253,252,948	$ 159,977,223	$ 143,601,825	-10.28%
Underground Storage						
Operation (814 - 826)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (830 - 837)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Production & Storage	$ 221,587,410	$ 281,712,423	$ 253,252,948	$ 159,977,223	$ 143,601,825	
Local Storage						
Operation (840 - 842)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (843 - 846)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Transmission						
Operation (850 - 860)	$ -	$ -	$ -	$ -	$ 45,431	0.00%
Maintenance (861 - 867)	$ -	$ -	$ -	$ -	$ 9,421	0.00%
Total	$ -	$ -	$ -	$ -	$ 54,852	0.00%
Distribution						
Operation (870 - 881)	$ 11,762,063	$ 11,037,868	$ 10,478,589	$ 12,421,590	$ 10,896,312	-1.89%
Maintenance (885 - 894)	$ 12,667,371	$ 11,403,482	$ 11,552,995	$ 11,540,636	$ 11,290,509	-2.84%
Total	$ 24,429,434	$ 22,441,350	$ 22,031,584	$ 23,962,226	$ 22,186,821	-2.38%
Total T&D Expense	$ 24,429,434	$ 22,441,350	$ 22,031,584	$ 23,962,226	$ 22,241,673	
Customer Account (901 - 905)	$ 19,773,597	$ 19,101,363	$ 21,547,476	$ 20,664,064	$ 18,593,915	-1.53%
Cust. Service & Info(906 - 910)	$ -	$ -	$ -	$ -	$ -	0.00%
Sales (911 - 916)	$ 2,161,064	$ 1,863,852	$ 1,034,644	$ 1,938,192	$ 1,398,637	-10.31%
Administration & General						
Operation (920 - 931)	$ 24,233,558	$ 26,821,285	$ 31,619,601	$ 50,096,511	$ 24,442,519	0.21%
Maintenance (935)	$ 1,487,028	$ 1,170,293	$ 1,140,952	$ 1,950,545	$ 779,364	-14.91%
Total	$ 25,720,586	$ 27,991,578	$ 32,760,553	$ 52,047,056	$ 25,221,883	-0.49%
Total Gas O & M	$ 293,672,091	$ 353,110,566	$ 330,627,205	$ 258,588,761	$ 211,057,933	-7.93%

NM = not meaningful

Equitable Gas Company	1995	1996	1997	1998	1999	Compound Growth %
System Information						
Unpr. bare stl. main (mi.)	1243	1245	770	1061	1048	-4.18%
Cast iron main (mi.)	72	72	66	66	65	-2.52%
Other main (mi.)	1781	1764	2121	1858	1919	1.88%
Total main (mi.)	3096	3081	2957	2985	3032	-0.52%
DOT Main Incidents						
Main Leaks						
Corrosion	1723	1393	1121	1335	780	-17.97%
Third party	98	93	79	86	70	-8.07%
Outside forces	0	0	0	0	0	0.00%
Construction defect	13	8	10	9	10	-6.35%
Material defect	28	22	13	22	10	-22.69%
Other	97	72	112	149	99	0.51%
Total	1959	1588	1335	1601	969	-16.14%
Unprotected bare steel services (thousands)	111946	56500	54592	53175	51353	-17.70%
Other services (thousands)	141333	197215	198828	201532	199283	8.97%
Total services (thousands)	253279	253715	253420	254707	250636	-0.26%
DOT Service Incidents						
Service Leaks						
Corrosion	1593	1461	1194	1101	486	-25.68%
Third party	202	164	141	159	166	-4.79%
Outside forces	0	0	0	0	0	0.00%
Construction defect	22	21	11	16	15	-9.13%
Material defect	26	33	19	27	34	6.94%
Other	139	160	157	241	98	-8.37%
Total	1982	1839	1522	1544	799	-20.32%

NM = not meaningful

Section 4
Panel Company Data

Peoples Natural Gas	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Operating Revenue						
Residential Sales	$ 252,113,322	$ 291,802,109	$ 291,142,512	$ 176,856,166	$ 168,555,995	-9.58%
Total Sales	$ 294,892,275	$ 333,390,640	$ 326,128,042	$ 203,011,993	$ 195,593,582	-9.76%
Transportation Sales	$ 35,003,823	$ 40,628,476	$ 54,819,874	$ 85,049,316	$ 96,616,386	28.89%
Total Operating Revenue	$ 329,896,098	$ 374,019,116	$ 380,947,916	$ 288,061,309	$ 292,209,968	-2.99%
Gross Utility Plant	$ 666,598,938	$ 692,718,134	$ 708,280,940	$ 672,050,359	$ 690,178,791	0.87%
Net Utility Plant	$ 434,741,387	$ 446,640,711	$ 452,997,998	$ 443,717,483	$ 449,432,772	0.83%
Total Throughput (MCF)						
Residential	37,346,074	40,111,369	35,389,907	21,808,934	21,695,247	-12.70%
Total Sales	48,377,396	46,696,816	39,690,461	25,034,480	25,288,742	-14.97%
Transportation	27,510,507	27,950,982	38,240,234	40,184,440	45,718,946	13.54%
Total Throughput	75,887,903	74,647,798	77,930,695	65,218,920	71,007,688	-1.65%
Customers (Total)	338,208	337,025	347,692	349,487	351,339	0.96%
Residential	314,746	316,583	318,352	320,073	321,788	0.55%
Employees	1095	1079	936	933	890	-5.05%
Payroll	$ 45,025,418	$ 47,500,007	$ 42,985,573	$ 39,820,689	$ 40,211,870	-2.79%
Services	332,546	335,358	331,690	332,650	337,098	0.34%
Feet of dist. main	31,864,800	32,060,160	32,514,240	32,767,680	32,963,040	0.85%
Feet of trans. main	2,423,520	2,423,520	2,423,520	2,376,000	2,376,000	-0.49%
Total T&D Main (feet)	34,288,320	34,483,680	34,937,760	35,143,680	35,339,040	0.76%
Total T&D Main (miles)	6,494	6,531	6,617	6,656	6,693	0.76%

NM = not meaningful

Peoples Natural Gas	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Gas Production & Gathering						
Operation (750-760)	$ 5,410,528	$ 5,482,768	$ 4,555,527	$ 4,084,453	$ 3,461,420	-10.57%
Maintenance (761 - 769)	$ 1,670,698	$ 2,332,549	$ 2,193,971	$ 1,783,810	$ 1,480,139	-2.98%
Total	$ 7,081,226	$ 7,815,317	$ 6,749,498	$ 5,868,263	$ 4,941,559	-8.60%
Products Extraction						
Operation (770 - 783)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (784 - 791)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Explor. & Devel. (795 - 798)	$ 9,641	$ 8,854	$ 10,087	$ 3,749	$ 146	-64.92%
Other Gas Supply Expense						
Purchased Gas (800 - 805)	$ 127,173,388	$ 179,589,422	$ 170,666,849	$ 92,009,905	$ 66,727,800	-14.89%
Exchange Gas (806)	$ 422,579	$ (455,268)	$ (52,629)	$ 305,152	$ (492,857)	0.00%
Purchased Gas (807.1 - 807.5)	$ 582,321	$ 604,654	$ 484,624	$ 487,537	$ 23,774	-55.05%
Utility Operations (808 - 812)	$ 14,865,164	$ (12,683,852)	$ (10,238,213)	$ 550,567	$ (4,430,913)	0.00%
Other Gas Supply Expense (813)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ 150,134,319	$ 174,879,127	$ 167,620,216	$ 99,225,173	$ 66,769,509	-18.34%
Underground Storage						
Operation (814 - 826)	$ 2,988,231	$ 3,554,748	$ 3,289,812	$ 4,971,490	$ 3,750,780	5.85%
Maintenance (830 - 837)	$ 859,703	$ 1,000,471	$ 955,922	$ 849,797	$ 1,098,313	6.31%
Total	$ 3,847,934	$ 4,555,219	$ 4,245,734	$ 5,821,287	$ 4,849,093	5.95%
Production & Storage	$ 153,982,253	$ 179,434,346	$ 171,865,950	$ 105,046,460	$ 71,618,602	-17.42%
Local Storage						
Operation (840 - 842)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (843 - 846)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Transmission						
Operation (850 - 860)	$ 1,268,280	$ 1,163,149	$ 1,208,548	$ 20,207,859	$ 41,256,550	138.82%
Maintenance (861 - 867)	$ 813,219	$ 906,228	$ 962,621	$ 1,009,698	$ 1,243,056	11.19%
Total	$ 2,081,499	$ 2,069,377	$ 2,171,169	$ 21,217,557	$ 42,499,606	112.57%
Distribution						
Operation (870 - 881)	$ 13,754,643	$ 11,399,497	$ 10,727,698	$ 9,366,746	$ 8,674,637	-10.89%
Maintenance (885 - 894)	$ 12,318,731	$ 11,652,588	$ 10,714,249	$ 11,601,983	$ 14,856,543	4.79%
Total	$ 26,073,374	$ 23,052,085	$ 21,441,947	$ 20,968,729	$ 23,531,180	-2.53%
Total T&D Expense	$ 28,154,873	$ 25,121,462	$ 23,613,116	$ 42,186,286	$ 66,030,786	
Customer Account (901 - 905)	$ 15,640,355	$ 15,275,308	$ 18,141,832	$ 16,059,220	$ 15,008,474	-1.03%
Cust. Service & Info(906 - 910)	$ 1,067,974	$ 702,173	$ 676,984	$ 1,134,287	$ 1,720,640	12.66%
Sales (911 - 916)	$ 4,377,879	$ 5,350,953	$ 4,374,440	$ 3,042,256	$ 1,798,295	-19.94%
Administration & General						
Operation (920 - 931)	$ 47,788,525	$ 41,764,483	$ 33,692,828	$ 33,637,812	$ 43,794,020	-2.16%
Maintenance (935)	$ 2,144,267	$ 1,342,395	$ 941,268	$ 968,086	$ 1,527,362	-8.13%
Total	$ 49,932,792	$ 43,106,878	$ 34,634,096	$ 34,605,898	$ 45,321,382	-2.39%
Total Gas O & M	$ 253,156,126	$ 268,991,120	$ 253,306,418	$ 202,074,407	$ 201,498,179	-5.55%

NM = not meaningful

Peoples Natural Gas	1995	1996	1997	1998	1999	Compound Growth %
System Information						
Unpr. bare stl. main (mi.)	2374	2355	2279	2205	2238	-1.46%
Cast iron main (mi.)	67	73	72	71	71	1.46%
Other main (mi.)	3593	3644	3807	3930	3934	2.29%
Total main (mi.)	6034	6072	6158	6206	6243	0.85%
DOT Main Incidents						
Main Leaks						
Corrosion	6204	5638	4915	4758	5123	-4.67%
Third party	113	106	139	169	204	15.91%
Outside forces	0	0	0	0	0	0.00%
Construction defect	5	42	21	30	38	66.04%
Material defect	147	86	69	165	43	-26.46%
Other	12	7	19	11	23	17.66%
Total	6481	5879	5163	5133	5431	-4.32%
Unprotected bare steel services (thousands)	81422	79641	73142	72070	70604	-3.50%
Other services (thousands)	251124	255717	258548	260580	266494	1.50%
Total services (thousands)	332546	335358	331690	332650	337098	0.34%
DOT Service Incidents						
Service Leaks						
Corrosion	2267	2047	2190	1971	1700	-6.94%
Third party	30	19	28	32	25	-4.46%
Outside forces	0	0	0	0	0	0.00%
Construction defect	24	42	20	44	16	-9.64%
Material defect	127	118	76	99	72	-13.23%
Other	33	28	20	9	8	-29.83%
Total	2481	2254	2334	2155	1821	-7.44%

NM = not meaningful

UGI Utilities	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Operating Revenue						
Residential Sales	$ 132,492,580	$ 167,339,048	$ 168,166,074	$ 147,589,081	$ 163,056,325	5.33%
Total Sales	$ 253,936,012	$ 311,330,829	$ 306,959,688	$ 251,749,523	$ 270,780,641	1.62%
Transportation Sales	$ 53,708,011	$ 56,456,367	$ 57,891,536	$ 58,806,571	$ 62,963,829	4.06%
Total Operating Revenue	$ 307,644,023	$ 367,787,196	$ 364,851,224	$ 310,556,094	$ 333,744,470	2.06%
Gross Utility Plant	$ 706,788,396	$ 738,881,775	$ 772,778,992	$ 804,848,496	$ 799,905,625	3.14%
Net Utility Plant	$ 492,316,454	$ 511,054,625	$ 531,152,247	$ 546,890,581	$ 553,465,624	2.97%
Total Throughput (MCF)						
Residential	14,646,563	19,581,194	18,384,869	15,754,946	17,959,349	5.23%
Total Sales	33,713,460	39,761,300	36,299,530	29,009,535	31,207,687	-1.91%
Transportation	40,773,923	45,130,503	42,022,996	43,554,523	46,658,993	3.43%
Total Throughput	74,487,383	84,891,803	78,322,526	72,564,058	77,866,680	1.12%
Customers (Total)	247657	252,707	257,726	263,190	269,993	2.18%
Residential	221,140	225,453	229,878	234,824	240,947	2.17%
Employees	1108	1080	1095	1041	934	-4.18%
Payroll	$ 39,521,873	$ 38,523,126	$ 37,744,772	$ 35,883,385	$ 40,157,734	0.40%
Services	249,308	254,703	261,247	267,098	274,149	2.40%
Feet of dist. main	21,088,320	21,537,120	22,133,760	22,545,600	23,020,800	2.22%
Feet of trans. main	564,960	564,960	564,960	564,960	564,960	0.00%
Total T&D Main (feet)	21,653,280	22,102,080	22,698,720	23,110,560	23,585,760	2.16%
Total T&D Main (miles)	4,101	4,186	4,299	4,377	4,467	2.16%

NM = not meaningful

UGI Utilities	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Gas Production & Gathering						
Operation (750-760)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (761 - 769)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Products Extraction						
Operation (770 - 783)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (784 - 791)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Explor. & Devel. (795 - 798)	$ -	$ -	$ -	$ -	$ -	0.00%
Other Gas Supply Expense						
Purchased Gas (800 - 805)	$ 121,860,256	$ 171,303,888	$ 165,763,975	$ 132,349,978	$ 137,267,440	3.02%
Exchange Gas (806)	$ -	$ -	$ -	$ -	$ -	0.00%
Purchased Gas (807.1 - 807.5)	$ -	$ -	$ -	$ -	$ -	0.00%
Utility Operations (808 - 812)	$ 3,335,591	$ (9,213,487)	$ (287,701)	$ (1,058,406)	$ 3,868,826	3.78%
Other Gas Supply Expense (813)	$ 20,250,423	$ 22,664,996	$ 19,598,022	$ 18,365,037	$ 16,324,985	-5.24%
Total	$ 145,446,270	$ 184,755,397	$ 185,074,296	$ 149,656,609	$ 157,461,251	2.00%
Underground Storage						
Operation (814 - 826)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (830 - 837)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Production & Storage	$ 145,854,863	$ 185,343,077	$ 185,415,785	$ 150,052,508	$ 157,831,621	1.99%
Local Storage						
Operation (840 - 842)	$ 243,313	$ 286,854	$ 225,075	$ 235,723	$ 254,830	1.16%
Maintenance (843 - 846)	$ 165,280	$ 300,826	$ 116,414	$ 160,176	$ 115,540	-8.56%
Total	$ 408,593	$ 587,680	$ 341,489	$ 395,899	$ 370,370	-2.43%
Transmission						
Operation (850 - 860)	$ 669	$ 1,162	$ -	$ -	$ -	NM
Maintenance (861 - 867)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ 669	$ 1,162	$ -	$ -	$ -	NM
Distribution						
Operation (870 - 881)	$ 13,849,089	$ 12,770,777	$ 12,469,554	$ 12,452,991	$ 12,251,681	-3.02%
Maintenance (885 - 894)	$ 9,134,693	$ 12,855,025	$ 10,583,845	$ 9,039,292	$ 10,246,747	2.91%
Total	$ 22,983,782	$ 25,625,802	$ 23,053,399	$ 21,492,283	$ 22,498,428	-0.53%
Total T&D Expense	$ 22,984,451	$ 25,626,964	$ 23,053,399	$ 21,492,283	$ 22,498,428	
Customer Account (901 - 905)	$ 15,617,869	$ 17,656,365	$ 17,055,037	$ 17,098,212	$ 17,699,247	3.18%
Cust. Service & Info(906 - 910)	$ 4,347,587	$ 4,783,781	$ 4,981,428	$ 4,709,331	$ 4,568,945	1.25%
Sales (911 - 916)	$ 2,466,832	$ 2,565,996	$ 2,820,724	$ 2,391,677	$ 2,070,566	-4.28%
Administration & General						
Operation (920 - 931)	$ 26,314,377	$ 23,908,231	$ 24,941,073	$ 24,218,086	$ 22,768,192	-3.55%
Maintenance (935)	$ 630,696	$ 705,403	$ 487,007	$ 445,303	$ 392,323	-11.19%
Total	$ 26,945,073	$ 24,613,634	$ 25,428,080	$ 24,663,389	$ 23,160,515	-3.71%
Total Gas O & M	$ 218,216,675	$ 260,589,817	$ 258,754,453	$ 220,407,400	$ 227,829,322	1.08%

NM = not meaningful

UGI Utilities	1995	1996	1997	1998	1999	Compound Growth %
System Information						
Unpr. bare stl. main (mi.)	427	421	406	390	377	-3.07%
Cast iron main (mi.)	513	508	503	495	487	-1.29%
Other main (mi.)	3054	3150	3283	3385	3496	3.44%
Total main (mi.)	3994	4079	4192	4270	4360	2.22%
DOT Main Incidents						
Main Leaks						
Corrosion	2048	4142	2839	2488	2956	9.61%
Third party	31	30	22	48	23	-7.19%
Outside forces	37	84	65	44	68	16.43%
Construction defect	13	22	24	16	33	26.22%
Material defect	63	42	49	39	50	-5.61%
Other	2013	3673	2737	2779	3521	15.00%
Total	4205	7993	5736	5414	6651	12.15%
Unprotected bare steel services (thousands)	33574	32025	30096	28778	27238	-5.09%
Other services (thousands)	215734	222678	231151	238320	246911	3.43%
Total services (thousands)	249308	254703	261247	267098	274149	2.40%
DOT Service Incidents						
Service Leaks						
Corrosion	886	918	810	866	965	2.16%
Third party	52	59	64	59	71	8.10%
Outside forces	50	47	39	33	56	2.87%
Construction defect	17	30	14	37	65	39.84%
Material defect	49	51	45	48	60	5.19%
Other	1338	1744	1540	1310	1988	10.41%
Total	2392	2849	2512	2353	3205	7.59%

NM = not meaningful

Section 4
Panel Company Data

Brooklyn Union Gas	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Operating Revenue						
Residential Sales	$ 876,589,902	$ 1,010,388,738	$ 953,642,494	$ 856,749,861	$ 848,849,118	-0.80%
Total Sales	$ 1,156,363,107	$ 1,350,134,439	$ 1,258,135,949	$ 1,067,585,823	$ 1,025,370,157	-2.96%
Transportation Sales	$ 7,699,732	$ 10,105,258	$ 30,032,297	$ 49,208,515	$ 77,002,010	3.05%
Total Operating Revenue	$ 1,164,062,839	$ 1,360,239,697	$ 1,288,168,246	$ 1,116,794,338	$ 1,102,372,167	-1.35%
Gross Utility Plant	$ 1,617,648,752	$ 1,785,830,220	$ 1,854,867,097	$ 1,897,586,013	$ 2,055,550,705	6.17%
Net Utility Plant	$ 1,250,926,097	$ 1,357,385,614	$ 1,393,302,603	$ 1,439,576,948	$ 1,491,686,405	4.50%
Total Throughput (MCF)						
Residential	98,168,568	103,585,955	98,721,264	85,100,390	88,045,210	-2.68%
Total Sales	160,653,177	163,431,114	156,948,031	123,588,816	123,566,816	-6.35%
Transportation	14,511,188	14,511,188	29,749,632	36,895,139	56,083,794	40.21%
Total Throughput	175,164,365	177,942,302	186,697,663	160,483,955	179,650,610	0.63%
Customers (Total)	1,127,651	1,130,523	1,132,208	1,137,785	1,144,181	0.36%
Residential	1,086,296	1,088,572	1,089,762	1,094,689	1,099,918	0.31%
Employees	3,184	3,184	2,811	2,669	2,607	-4.88%
Payroll	$ 191,396,935	$ 191,396,935	$ 185,050,205	$ 165,173,305	$ 161,530,119	-4.15%
Services	1,130,523	1,130,523	1,132,208	1,137,785	1,144,181	0.30%
Feet of dist. main	19,532,600	19,590,133	19,732,363	19,825,077	20,053,117	0.00%
Feet of trans. main	1,293,067	1,293,067	1,294,001	1,293,702	1,294,112	0.02%
Total T&D Main (feet)	20,825,667	20,883,200	21,026,364	21,118,779	21,347,229	0.62%
Total T&D Main (miles)	3,944	3,955	3,982	4,000	4,043	0.62%

NM = not meaningful

Brooklyn Union Gas	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Gas Production & Gathering						
Operation (750-760)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (761 - 769)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Products Extraction						
Operation (770 - 783)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (784 - 791)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Explor. & Devel. (795 - 798)	$ -	$ -	$ -	$ -	$ -	0.00%
Other Gas Supply Expense						
Purchased Gas (800 - 805)	$ 471,628,276	$ 650,389,063	$ 566,045,925	$ 423,868,256	$ 416,864,645	-3.04%
Exchange Gas (806)	$ -	$ -	$ -	$ -	$ -	0.00%
Purchased Gas (807.1 - 807.5)	$ 383,860	$ 515,511	$ 470,414	$ 346,087	$ 226,000	-12.40%
Utility Operations (808 - 812)	$ 108,946	$ (3,103,721)	$ (2,290,115)	$ (186,957)	$ 254,940	23.68%
Other Gas Supply Expense (813)	$ -	$ (1,650,876)	$ -	$ 5,284,292	$ 884,450	NM
Total	$ 472,121,082	$ 646,149,977	$ 564,226,224	$ 429,311,678	$ 418,230,035	-2.98%
Underground Storage						
Operation (814 - 826)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (830 - 837)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Production & Storage	$ 477,520,411	$ 650,941,654	$ 569,064,202	$ 433,085,623	$ 422,196,651	-3.03%
Local Storage						
Operation (840 - 842)	$ 3,456,996	$ 2,643,532	$ 2,586,808	$ 2,386,903	$ 2,068,746	-12.05%
Maintenance (843 - 846)	$ 1,942,333	$ 2,148,145	$ 2,251,170	$ 1,387,042	$ 1,897,870	-0.58%
Total	$ 5,399,329	$ 4,791,677	$ 4,837,978	$ 3,773,945	$ 3,966,616	-7.42%
Transmission						
Operation (850 - 860)	$ 442,377	$ 300,533	$ 260,572	$ 212,722	$ 404,490	-2.21%
Maintenance (861 - 867)	$ 921,442	$ 556,436	$ 297,805	$ 577,849	$ 298,621	-24.55%
Total	$ 1,363,819	$ 856,969	$ 558,377	$ 790,571	$ 703,111	-15.26%
Distribution						
Operation (870 - 881)	$ 67,358,140	$ 71,783,401	$ 64,616,401	$ 49,211,967	$ 46,175,422	-9.01%
Maintenance (885 - 894)	$ 48,854,060	$ 47,137,263	$ 51,352,133	$ 47,880,003	$ 44,693,525	-2.20%
Total	$ 116,212,200	$ 118,920,664	$ 115,968,534	$ 97,091,970	$ 90,868,947	-5.96%
Total T&D Expense	$ 117,576,019	$ 119,777,633	$ 116,526,911	$ 97,882,541	$ 91,572,058	-6.06%
Customer Account (901 - 905)	$ 67,113,049	$ 73,842,932	$ 71,783,414	$ 64,938,748	$ 58,837,706	-3.24%
Cust. Service & Info(906 - 910)	$ 9,268,062	$ 8,821,533	$ 9,222,065	$ 8,887,861	$ 8,213,138	-2.98%
Sales (911 - 916)	$ 8,363,351	$ 8,889,020	$ 7,524,990	$ 8,135,015	$ 10,024,402	4.63%
Administration & General						
Operation (920 - 931)	$ 144,299,440	$ 141,002,770	$ 124,690,362	$ 128,037,699	$ 112,224,465	-6.09%
Maintenance (935)	$ 4,038,493	$ 4,435,618	$ 5,130,538	$ 4,375,470	$ 4,103,258	0.40%
Total	$ 148,337,933	$ 145,438,388	$ 129,820,900	$ 132,413,169	$ 116,327,723	-5.90%
Total Gas O & M	$ 828,178,825	$ 1,007,711,160	$ 903,942,482	$ 745,342,957	$ 707,171,678	-3.87%

NM = not meaningful

Brooklyn Union Gas	1995	1996	1997	1998	1999	Compound Growth %
System Information						
Unpr. bare stl. main (mi.)	322	449	322	3216	425	7.18%
Cast iron main (mi.)	1971	587	1971	2360	546	-27.45%
Other main (mi.)	1610	1650	1610	4824	1777	2.50%
Total main (mi.)	3903	2686	3903	10400	2748	-8.40%
DOT Main Incidents						
Main Leaks						
Corrosion	689	680	48	1748	593	-3.68%
Third party	28	27	13	156	40	9.33%
Outside forces	783	396	141	623	652	-4.47%
Construction defect	10	6	21	71	1	-43.77%
Material defect	1	2	4	177	0	-100.00%
Other	215	948	2279	3437	410	17.51%
Total	1726	2059	2506	6212	1696	-0.44%
Unprotected bare steel services (thousands)	52689	50463	31634	176419	45327	-3.69%
Other services (thousands)	103646	106808	498642	779779	117644	3.22%
Total services (thousands)	156335	157271	530276	956198	162971	1.04%
DOT Service Incidents						
Service Leaks						
Corrosion	771	920	613	2284	796	0.80%
Third party	112	91	170	611	138	5.36%
Outside forces	153	114	98	197	178	3.86%
Construction defect	15	15	29	107	5	-24.02%
Material defect	9	4	91	453	0	-100.00%
Other	164	420	1451	5402	158	-0.93%
Total	1224	1564	2452	9054	1275	1.03%

Section 4
Panel Company Data

Boston Gas	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Operating Revenue						
Residential Sales	$ 368,328,881	$ 396,136,831	$ 398,272,801	$ 360,529,068	$ 356,587,635	-0.81%
Total Sales	$ 635,190,577	$ 684,774,834	$ 676,256,498	$ 576,268,169	$ 540,320,594	-3.96%
Transportation Sales	$ 14,111,042	$ 17,680,002	$ 22,407,568	$ 31,273,355	$ 36,801,759	4.13%
Total Operating Revenue	$ 649,301,619	$ 702,454,836	$ 698,664,066	$ 607,541,524	$ 577,122,353	-2.90%
Gross Utility Plant	$ 746,316,699	$ 800,941,842	$ 853,722,272	$ 909,884,036	$ 959,124,589	6.47%
Net Utility Plant	$ 505,803,666	$ 525,478,896	$ 539,404,680	$ 556,874,785	$ 570,618,180	3.06%
Total Throughput (MCF)						
Residential	39,723,100	42,825,274	41,653,811	37,920,382	39,252,581	-0.30%
Total Sales	94,352,173	94,371,896	84,764,710	78,803,843	72,142,166	-6.49%
Transportation	47,529,414	61,654,700	33,911,966	65,448,398	56,474,241	4.41%
Total Throughput	141,881,587	156,026,596	118,676,676	144,252,241	128,616,407	-2.42%
Customers (Total)	515,218	524,437	527,851	527,077	531,878	0.80%
Residential	474,831	482,676	487,269	488,795	493,629	0.98%
Employees	1,554	1,516	1,437	1,318	1,353	-3.40%
Payroll	$ 88,227,988	$ 89,017,282	$ 87,126,573	$ 84,668,535	$ 87,168,171	-0.30%
Services	407,332	412,390	411,448	418,978	421,972	0.89%
Feet of dist. main	30,851,040	30,924,960	31,236,480	31,405,440	31,584,960	0.00%
Feet of trans. main	10,560	10,560	10,560	10,560	10,560	0.00%
Total T&D Main (feet)	30,861,600	30,935,520	31,247,040	31,416,000	31,595,520	0.59%
Total T&D Main (miles)	5,845	5,859	5,918	5,950	5,984	0.59%

NM = not meaningful

Boston Gas	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Gas Production & Gathering						
Operation (750-760)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (761 - 769)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Products Extraction						
Operation (770 - 783)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (784 - 791)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Explor. & Devel. (795 - 798)	$ -	$ -	$ -	$ -	$ -	0.00%
Other Gas Supply Expense						
Purchased Gas (800 - 805)	$ 330,644,701	$ 394,382,128	$ 375,498,054	$ 295,539,253	$ 269,030,119	-5.02%
Exchange Gas (806)	$ -	$ -	$ -	$ -	$ -	0.00%
Purchased Gas (807.1 - 807.5)	$ -	$ -	$ -	$ -	$ -	0.00%
Utility Operations (808 - 812)	$ 33,169,289	$ 13,158,393	$ 14,518,823	$ 19,051,688	$ 16,101,612	-16.53%
Other Gas Supply Expense (813)	$ 4,278,909	$ 3,626,678	$ 4,157,015	$ 3,959,523	$ 670,479	-37.08%
Total	$ 368,092,899	$ 411,167,199	$ 394,173,892	$ 318,550,464	$ 285,802,210	-6.13%
Underground Storage						
Operation (814 - 826)	$ 8,348,199	$ 4,434,509	$ 5,959,467	$ 7,769,176	$ 7,754,552	-1.83%
Maintenance (830 - 837)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ 8,348,199	$ 4,434,509	$ 5,959,467	$ 7,769,176	$ 7,754,552	-1.83%
Production & Storage	$ 379,127,723	$ 418,527,595	$ 402,980,747	$ 329,165,805	$ 296,754,513	-5.94%
Local Storage						
Operation (840 - 842)	$ 2,228,795	$ 2,419,432	$ 2,351,765	$ 2,332,029	$ 2,745,537	5.35%
Maintenance (843 - 846)	$ 457,830	$ 506,455	$ 495,623	$ 514,136	$ 452,214	-0.31%
Total	$ 2,686,625	$ 2,925,887	$ 2,847,388	$ 2,846,165	$ 3,197,751	4.45%
Transmission						
Operation (850 - 860)	$ 5,200,966	$ 5,959,091	$ 5,363,349	$ 3,954,311	$ 5,888,496	0.00%
Maintenance (861 - 867)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ 5,200,966	$ 5,959,091	$ 5,363,349	$ 3,954,311	$ 5,888,496	0.00%
Distribution						
Operation (870 - 881)	$ 31,901,855	$ 31,535,294	$ 29,600,888	$ 26,036,137	$ 27,978,562	-3.23%
Maintenance (885 - 894)	$ 16,980,207	$ 20,021,981	$ 17,671,772	$ 18,518,405	$ 21,991,852	6.68%
Total	$ 48,882,062	$ 51,557,275	$ 47,272,660	$ 44,554,542	$ 49,970,414	0.55%
Total T&D Expense	$ 54,083,028	$ 57,516,366	$ 52,636,009	$ 48,508,853	$ 55,858,910	0.81%
Customer Account (901 - 905)	$ 38,418,338	$ 37,240,664	$ 36,797,811	$ 36,447,295	$ 36,081,450	-1.56%
Cust. Service & Info(906 - 910)	$ -	$ -	$ -	$ -	$ -	0.00%
Sales (911 - 916)	$ 6,483,512	$ 6,745,397	$ 7,449,445	$ 6,775,425	$ 7,096,080	2.28%
Administration & General						
Operation (920 - 931)	$ 50,272,992	$ 49,372,632	$ 52,302,075	$ 39,088,044	$ 45,241,972	-2.60%
Maintenance (935)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ 50,272,992	$ 49,372,632	$ 52,302,075	$ 39,088,044	$ 45,241,972	-2.60%
Total Gas O & M	$ 528,385,593	$ 569,402,654	$ 552,166,087	$ 459,985,422	$ 441,032,925	-4.42%

NM = not meaningful

Boston Gas	1995	1996	1997	1998	1999	Compound Growth %
System Information						
Unpr. bare stl. main (mi.)	980	965	960	951	951	-0.75%
Cast iron main (mi.)	2614	2585	2572	2557	2544	-0.68%
Other main (mi.)	2249	2307	2384	2440	2487	2.55%
Total main (mi.)	5843	5857	5916	5948	5982	0.59%
DOT Main Incidents	0	0	0	0	0	0
Main Leaks						
Corrosion	1250	1293	1410	1589	1306	1.10%
Third party	140	144	117	142	132	-1.46%
Outside forces	771	571	485	1486	2218	30.23%
Construction defect	20	20	7	40	21	1.23%
Material defect	117	173	138	122	244	20.17%
Other	2936	4151	3623	3357	1866	-10.71%
Total	5234	6352	5780	6736	5787	2.54%
Unprotected bare steel services (thousands)	260929	258879	256976	254939	253906	-0.68%
Other services (thousands)	146403	153511	154472	164039	168066	3.51%
Total services (thousands)	407332	412390	411448	418978	421972	0.89%
DOT Service Incidents						
Service Leaks						
Corrosion	2058	2391	2300	2261	1450	-8.38%
Third party	529	601	534	476	498	-1.50%
Outside forces	76	92	129	482	753	77.42%
Construction defect	44	35	29	39	46	1.12%
Material defect	27	328	77	70	99	38.38%
Other	123	295	659	568	464	39.36%
Total	2857	3742	3728	3896	3310	3.75%

NM = not meaningful

Section 4
Panel Company Data

Washington Gas Light	1995	1996	1997	1998	1999	Compound Growth %
Operating Statistics						
Operating Revenue						
Residential Sales	$ 468,409,535	$ 588,646,570	$ 573,976,129	$ 468,634,991	$ 484,914,167	0.87%
Total Sales	$ 805,135,207	$ 970,968,276	$ 908,697,855	$ 696,811,233	$ 679,218,634	-4.16%
Transportation Sales	$ 5,135,314	$ 11,323,632	$ 34,391,834	$ 55,259,818	$ 92,359,484	4.34%
Total Operating Revenue	$ 810,270,521	$ 982,291,908	$ 943,089,689	$ 752,071,051	$ 771,578,118	-1.22%
Gross Utility Plant	$ 1,511,777,235	$ 1,668,455,863	$ 1,767,433,618	$ 1,872,854,764	$ 2,007,944,369	7.35%
Net Utility Plant	$ 979,018,372	$ 1,087,633,443	$ 1,172,723,447	$ 1,275,019,807	$ 1,357,969,286	8.52%
Total Throughput (MCF)						
Residential	640,559,256	723243649	660,715,938	570,850,199	597,844,054	-1.71%
Total Sales	1329578974	1321571529	1,146,678,757	912,894,175	878,273,711	-9.85%
Transportation	87,045,916	173,185,414	35,543,759		62,195,797	-8.06%
Total Throughput	1,416,624,890	1,494,756,943	1,182,222,516	912,894,175	940,469,508	-9.73%
Customers (Total)	731,238	763,192	777,637	783,752	755,187	0.81%
Residential	674,274	703,987	720,149	729,178	707,028	1.19%
Employees	2,254	2,174	1,993	1,913	1,831	-5.06%
Payroll	$ 87,631,193	$ 94,094,241	$ 82,942,363	$ 81,608,469	$ 82,276,128	-1.56%
Services	729,503	729,503	729,503	754,634	754,634	0.85%
Feet of dist. main	54,806,400	54,806,400	54,806,400	54,806,400	54,806,400	0.00%
Feet of trans. main						NM
Total T&D Main (feet)	54,806,400	54,806,400	54,806,400	54,806,400	54,806,400	0.00%
Total T&D Main (miles)	10,380	10,380	10,380	10,380	10,380	0.00%

NM = not meaningful

Washington Gas Light	1995	1996	1997	1998	1999	Compound Growth %
Operating Expenses						
Gas Production & Gathering						
Operation (750-760)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (761 - 769)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Products Extraction						
Operation (770 - 783)	$ -	$ -	$ -	$ -	$ -	0.00%
Maintenance (784 - 791)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ -	$ -	$ -	$ -	$ -	0.00%
Explor. & Devel. (795 - 798)	$ -	$ -	$ -	$ -	$ -	0.00%
Other Gas Supply Expense						
Purchased Gas (800 - 805)	$ 373,665,248	$ 520,309,668	$ 575,339,199	$ 507,763,186	$ 499,791,121	7.54%
Exchange Gas (806)	$ -	$ -	$ -	$ -	$ -	0.00%
Purchased Gas (807.1 - 807.5)	$ 971,857	$ 869,179	$ 872,254	$ 816,708	$ 754,897	-6.12%
Utility Operations (808 - 812)	$ -	$ -	$ -	$ -	$ -	0.00%
Other Gas Supply Expense (813)	$ 278,649	$ 281,236	$ 375,564	$ 278,986	$ 278,785	0.01%
Total	$ 374,915,754	$ 521,460,083	$ 576,587,017	$ 508,858,880	$ 500,824,803	7.51%
Underground Storage						
Operation (814 - 826)	$ 2,791,826	$ 2,970,433	$ 2,790,621	$ 3,030,726	$ 2,810,814	0.00%
Maintenance (830 - 837)	$ -	$ -	$ -	$ -	$ -	0.00%
Total	$ 2,791,826	$ 2,970,433	$ 2,790,621	$ 3,030,726	$ 2,810,814	0.00%
Production & Storage	$ 379,732,583	$ 526,786,977	$ 581,542,077	$ 513,853,902	$ 506,103,281	7.45%
Local Storage						
Operation (840 - 842)	$ 1,530,242	$ 1,702,350	$ 1,619,652	$ 1,475,477	$ 1,774,917	3.78%
Maintenance (843 - 846)	$ 494,761	$ 654,111	$ 544,787	$ 488,819	$ 692,747	NM
Total	$ 2,025,003	$ 2,356,461	$ 2,164,439	$ 1,964,296	$ 2,467,664	5.07%
Transmission						
Operation (850 - 860)	$ 1,254,198	$ 1,238,440	$ 1,230,665	$ 1,299,777	$ 1,781,505	9.17%
Maintenance (861 - 867)	$ 2,789,624	$ 2,766,602	$ 1,793,836	$ 1,893,474	$ 1,931,375	-8.78%
Total	$ 4,043,822	$ 4,005,042	$ 3,024,501	$ 3,193,251	$ 3,712,880	-2.11%
Distribution						
Operation (870 - 881)	$ 25,389,191	$ 26,649,346	$ 24,775,468	$ 22,333,504	$ 21,756,179	-3.79%
Maintenance (885 - 894)	$ 25,063,012	$ 28,113,635	$ 30,369,988	$ 31,700,791	$ 26,578,126	1.48%
Total	$ 50,452,203	$ 54,762,981	$ 55,145,456	$ 54,034,295	$ 48,334,305	-1.07%
Total T&D Expense	$ 54,496,025	$ 58,768,023	$ 58,169,957	$ 57,227,546	$ 52,047,185	-1.14%
Customer Account (901 - 905)	$ 28,826,109	$ 30,078,356	$ 32,365,793	$ 33,863,581	$ 30,806,191	1.67%
Cust. Service & Info(906 - 910)	$ 4,783,907	$ 5,041,872	$ 4,507,092	$ 4,262,313	$ 3,442,615	-7.90%
Sales (911 - 916)	$ 4,832,912	$ 6,864,564	$ 6,448,953	$ 4,985,870	$ 4,493,088	-1.81%
Administration & General						
Operation (920 - 931)	$ 90,179,264	$ 109,426,914	$ 80,115,740	$ 88,994,429	$ 86,865,548	-0.93%
Maintenance (935)	$ 2,289,366	$ 2,632,069	$ 3,715,769	$ 3,456,465	$ 2,947,823	6.52%
Total	$ 92,468,630	$ 112,058,983	$ 83,831,509	$ 92,450,894	$ 89,813,371	-0.73%
Total Gas O & M	$ 565,140,166	$ 739,598,775	$ 766,865,381	$ 706,644,106	$ 686,705,731	4.99%

NM = not meaningful

Section 4
Panel Company Data

Washington Gas Light	1995	1996	1997	1998	1999	Compound Growth %
System Information						
Unpr. bare stl. main (mi.)	317	317	317	296	296	-1.70%
Cast iron main (mi.)	644	644	644	616	616	-1.11%
Other main (mi.)	9060	9060	9060	9468	9468	1.11%
Total main (mi.)	10021	10021	10021	10380	10380	0.88%
DOT Main Incidents						
Main Leaks						
Corrosion	668	668	668	619	619	-1.89%
Third party	308	308	308	307	307	-0.08%
Outside forces	147	147	147	118	118	-5.35%
Construction defect	58	58	58	45	45	-6.15%
Material defect	525	525	525	488	488	-1.81%
Other	363	363	363	296	296	-4.97%
Total	2069	2069	2069	1873	382	-34.45%
Unprotected bare steel services (thousands)	18825	18825	18825	17406	17406	-1.94%
Other services (thousands)	710678	710678	710678	737228	737228	0.92%
Total services (thousands)	729503	729503	729503	754634	754634	0.85%
DOT Service Incidents						
Service Leaks						
Corrosion	463	463	463	461	461	-0.11%
Third party	976	976	976	963	963	-0.33%
Outside forces	138	138	138	117	117	-4.04%
Construction defect	79	79	79	88	88	2.73%
Material defect	183	183	183	164	164	-2.70%
Other	1218	1218	1218	1526	1526	5.80%
Total	3057	3057	3057	3319	3319	2.08%

NM = not meaningful

Philadelphia Gas Works
Statistical Comparison
Document Sources

Barrington-Wellesley Group used the following listed document sources to develop the statistical comparison package for the PA PUC mandated audit of the Philadelphia Gas Works.

Philadelphia Gas Works
Statistical package developed by Philadelphia Gas Works and provided to the PA PUC and BWG for use in developing the Statistical Comparison Package.

PECO Energy
Annual Report of PECO Energy Company to the PA Public Utility Commission Year Ending 12/31/99
Annual Report of PECO Energy Company to the PA Public Utility Commission Year Ending 12/31/98
Annual Report of PECO Energy Company to the PA Public Utility Commission Year Ending 12/31/97
Annual Report of PECO Energy Company to the PA Public Utility Commission Year Ending 12/31/96

Reports Provided to the Office of Pipeline Safety
Annual Report for Calendar Year 1995 – Gas Distribution System
Annual Report for Calendar Year 1995 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1996 – Gas Distribution System
Annual Report for Calendar Year 1996 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1997 – Gas Distribution System
Annual Report for Calendar Year 1997 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1998 – Gas Distribution System
Annual Report for Calendar Year 1998 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1999 – Gas Distribution System
Annual Report for Calendar Year 1999 – Gas Transmission & Gathering Systems

Equitable Gas Company, Division of Equitable Resources, Inc.
Annual Report of Equitable Gas Company to the PA Public Utility Commission Year Ending 12/31/99
Annual Report of Equitable Gas Company to the PA Public Utility Commission Year Ending 12/31/98
Annual Report of Equitable Gas Company to the PA Public Utility Commission Year Ending 12/31/97
Annual Report of Equitable Gas Company to the PA Public Utility Commission Year Ending 12/31/95

Reports Provided to the Office of Pipeline Safety
Annual Report for Calendar Year 1995 – Gas Distribution System
Annual Report for Calendar Year 1995 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1996 – Gas Distribution System
Annual Report for Calendar Year 1996 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1997 – Gas Distribution System
Annual Report for Calendar Year 1997 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1998 – Gas Distribution System
Annual Report for Calendar Year 1998 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1999 – Gas Distribution System
Annual Report for Calendar Year 1999 – Gas Transmission & Gathering Systems

Peoples Natural Gas Company
Annual Report of Peoples Natural Gas Company to the PA Public Utility Commission Year Ending 12/31/99
Annual Report of Peoples Natural Gas Company to the PA Public Utility Commission Year Ending 12/31/98
Annual Report of Peoples Natural Gas Company to the PA Public Utility Commission Year Ending 12/31/97
Annual Report of Peoples Natural Gas Company to the PA Public Utility Commission Year Ending 12/31/96

Reports Provided to the Office of Pipeline Safety
Annual Report for Calendar Year 1995 – Gas Distribution System
Annual Report for Calendar Year 1995 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1996 – Gas Distribution System
Annual Report for Calendar Year 1996 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1997– Gas Distribution System
Annual Report for Calendar Year 1997 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1998 – Gas Distribution System
Annual Report for Calendar Year 1998 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1999 – Gas Distribution System
Annual Report for Calendar Year 1999 – Gas Transmission & Gathering Systems

UGI Utilities, Incorporated
Annual Report of UGI Utilities to the PA Public Utility Commission Year Ending 12/31/99
Annual Report of UGI Utilities to the PA Public Utility Commission Year Ending 12/31/98
Annual Report of UGI Utilities to the PA Public Utility Commission Year Ending 12/31/97
Annual Report of UGI Utilities to the PA Public Utility Commission Year Ending 12/31/96

Reports Provided to the Office of Pipeline Safety
Annual Report for Calendar Year 1995 – Gas Distribution System
Annual Report for Calendar Year 1995 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1996 – Gas Distribution System
Annual Report for Calendar Year 1996 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1997 – Gas Distribution System
Annual Report for Calendar Year 1997 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1998 – Gas Distribution System
Annual Report for Calendar Year 1998 – Gas Transmission & Gathering Systems
Annual Report for Calendar Year 1999 – Gas Distribution System
Annual Report for Calendar Year 1999 – Gas Transmission & Gathering Systems

Brooklyn Union Gas Company
Electric and/or Gas Utilities Classes A and B Year Ending December 31, 1999
Electric and/or Gas Utilities Classes A and B Year Ending December 31, 1998
Electric and/or Gas Utilities Classes A and B Year Ending December 31, 1997
Electric and/or Gas Utilities Classes A and B Year Ending December 31, 1996
Report to the State of New York Public Service Commission for the Year Ending December 31, 1995

Boston Gas Company
Annual Report for the year ending December 1995
Annual Report for the year ending December 1996
Annual Report for the year ending December 1997
Annual Report for the year ending December 1998
Annual Report for the year ending December 1999

Reports Provided to the Office of Pipeline Safety
DOT Annual Report for Calendar Year 1995 Gas Distribution System
DOT Annual Report for Calendar Year 1996 Gas Distribution System
DOT Annual Report for Calendar Year 1997 Gas Distribution System
DOT Annual Report for Calendar Year 1998 Gas Distribution System
DOT Annual Report for Calendar Year 1999 Gas Distribution System
DOT Annual Report for Calendar Year 1995 Gas Transmission & Gathering System
DOT Annual Report for Calendar Year 1996 Gas Transmission & Gathering System
DOT Annual Report for Calendar Year 1997 Gas Transmission & Gathering System
DOT Annual Report for Calendar Year 1998 Gas Transmission & Gathering System
DOT Annual Report for Calendar Year 1999 Gas Transmission & Gathering System

Washington Gas Light Company
Annual Report for the year ending December 1995
Annual Report for the year ending December 1996
Annual Report for the year ending December 1997
Annual Report for the year ending December 1998
Annual Report for the year ending December 1999

Administrative Counsel St. No. 1 EXH 1
5/23/01
RQS
Phila PD

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY

OF

PERRY L. WHEATON

CONCERNING

STRATIFIED MANAGEMENT AND OPERATIONS AUDIT
OF PHILADELPHIA GAS WORKS

COMPLETED JANUARY 2001

PHILADELPHIA GAS WORKS
BASE RATE PROCEEDING

R-00006042

May 2001

Q.1: **Please state your name, current position and business address.**

A.1: My name is Perry L. Wheaton, I am a managing director of the Barrington-Wellesley Group, Inc. (BWG), and my business address is P.O. Box 2390, New London, New Hampshire 03257.

Q.2: **Please describe your qualifications and experience.**

A.2: Please see **Exhibit I - Resume.**

Q.3: **Please describe your role in the stratified management and operations audit of Philadelphia Gas Works (PGW) performed by the Barrington-Wellesley Group, Inc.**

A.3: I was the project director and was responsible for the administrative and technical quality of the audit, directing the activities of the audit team, and coordinating and reporting our activities to the Public Utility Commission (PUC) staff.

Q.4: **Please identify and describe the experience of the project management team and key consultants who assisted you in the performance of the PGW audit.**

A.4: BWG Managing Director **John P. Conley**, a Certified Management Consultant (CMC), served as lead consultant for Human Resource Management and Customer Service, Billing and Collection. He served as lead consultant in both areas on BWG's audits of Peoples Natural Gas for the PUC and New Jersey Natural Gas for the New Jersey BPU. He also has extensive experience working with municipal utilities and his clients have included: Pasadena, CA; Lakeland, FL; Los Angeles Department of Water and Power; and the Los Angeles County Department of Public Works.

John D. Heaton, a CPA and a BWG managing director, was the lead consultant for the interrelated areas of Corporate Planning, Financial Management, and Readiness for Restructuring. He has served as the chief financial and/or chief accounting officer of two utilities, the publicly-owned Lower Colorado River Authority and Commonwealth Energy, a combination electric and gas utility. He was an audit manager in Arthur Andersen & Co.'s Regulated Industries Practice for eleven years.

David P. Vondle, a CMC, was the lead consultant for Gas Distribution and Supply Management. He has twenty-five years of management consulting experience and has played a key role in twenty-three audits for regulators. He previously directed the audit of National Fuel Gas for the

PUC and was also the lead consultant for gas system planning, gas system operations, and gas supply.

Michael C. Joyner was the lead consultant for Staffing, and Support Services. He has twenty years of utility consulting and industry experience and previously served as the project manager for the management audit of Equitable Gas for the PUC. He is a leading expert on staffing and productivity issues in the utility industry.

Dr. Fred H. Black served as the consultant for Diversity and Equal Employment Opportunity (EEO) programs. Dr. Black, an expert on diversity issues, has fifteen years of consulting experience and was previously an executive with General Electric, where he was manager of Special Interest Group Programs. He was the lead consultant for diversity on the PUC's management audit of Equitable Gas.

David Sage was the lead consultant for Information Technology. An electrical engineer with an MBA, Mr. Sage specializes in information system management. He has over twenty years of consulting and management experience in the utilities industry. He has served as the lead consultant for information systems on ten management audits of utilities including four for the PUC.

Q.5: **What is the purpose of your testimony?**

A.5: I was requested by the Administrative Counsel of the Pennsylvania PUC to testify as to the performance and results of the audit.

Q.6: **How is the testimony organized?**

A.6: I will first describe the scope of the audit; second, the general methodology; third, the general conclusions reached for each of the task areas. Attached as Attachment 1 is the full Audit Report, which will be referenced in testimony.

Q.7: **Please *identify the overall objective of the audit.***

A.7: The overall objective of the audit was to determine what improvements could be made in the management and operations of PGW.

Q.8: **Please describe the scope of the audit.**

A.8: The audit consisted of three phases: a diagnostic review (Phase I), an in-depth analysis of pre-identified areas of issue (Phase II), and a focused

analysis resulting from the diagnostic review (Phase III). Each phase is described below.

Phase I - Diagnostic Review. The first phase assessed the condition of the following areas:

- corporate planning
- staffing levels
- support services
- statistical comparison.

Phase II - Pre-Identified Areas or Issues. The second phase consisted of an in-depth analysis of the pre-identified areas or issues listed below:

- ongoing or planned efforts
- corporate governance
- customer service, billing and collection
- gas distribution and supply management
- financial management
- information technology
- readiness for restructuring and retail competition
- human resource management
- diversity and equal employment opportunity.

Phase III - Focused Analysis. The third phase of the audit was an in-depth analysis of PGW's Work Management and Manpower Planning Program.

Q.9: **Please describe the general audit approach and the methodology which was utilized.**

A.9: For each audit area, the project team:

- Performed an extensive review of PGW reports and documentation
- Conducted interviews with PGW officers, managers and supervisors
- Performed analysis
- Developed findings and conclusions.

Q.10: **Referring to Chapter III of the audit report please describe the scope and purpose of your examination of PGW's "Corporate Planning."**

A.10: We performed a diagnostic review of corporate planning activities to determine if PGW's planning process can meet the challenges of competition and deregulation.

Q.11: **Please describe your general conclusions regarding PGW's corporate planning.**

A.11: In the past, PGW's planning activities have not produced meaningful plans. In March 2000, interim management issued a six-month plan, which provided a focus for dealing with major issues confronting PGW. The current planning process can be improved.

Q.12: **Referring to Chapter IV of the audit report please describe the scope and purpose of your examination of PGW "Staffing Levels."**

A.12: We performed a diagnostic review of PGW's staffing levels to determine if they were appropriate and if PGW has an effective manpower planning and work force management program.

Q.13: **Please describe your general conclusions regarding PGW's staffing levels.**

A.13: PGW staffing levels are not based upon quantified data, and a comparison of staffing levels between PGW and other gas distribution companies indicated that PGW is overstaffed.

Q.14: ***Referring to Chapter V of the audit report, please describe the scope and purpose of your examination of PGW's "Support Services."***

A.14: We performed a diagnostic review of PGW's risk management and legal services functions to determine whether or not PGW has a reasonable strategy to deal with risk and potential liability, and whether or not PGW is provided with cost effective counsel.

Q.15: **Please describe your general conclusions regarding PGW's support services.**

A.15: PGW has a reasonable risk management strategy to deal with risk and potential liabilities. The PGW legal department has taken steps to provide PGW with more cost effective legal services. PGW is installing a program to reduce its workers compensation costs.

Q.16: **Referring to Chapter VI of the audit report, please describe the scope and purpose of your examination of PGW's "Ongoing or Planned Efforts."**

A.16: We evaluated whether or not PGW had an effective process for planning, implementing, monitoring and taking corrective actions on improvement initiatives.

Q.17: **Please describe your general conclusions regarding PGW's ongoing or planned efforts.**

A.17: Since March 2000, interim management has taken a number of steps which indicate that PGW has the ability to set priorities for implementing initiatives that will improve the cost effectiveness of PGW operations.

Q.18: **Referring to Chapter VII of the audit report, please describe the scope and purpose of your examination of PGW "Corporate Governance."**

A.18: We evaluated the effectiveness and efficiency of PGW's corporate governance structure, and analyzed the relationships between PGW management and the City of Philadelphia, the City Council, the Philadelphia Gas Commission, and the Philadelphia Facilities Management Corporation (PFMC) Board of Directors.

Q.19: **Please describe your general conclusions regarding PGW's corporate governance.**

A.19: The governance structure of PGW needs to be revised. PGW has not had an effective organization structure, and its senior management has not communicated effectively with its employees.

Q.20: **Referring to Chapter VIII of the audit report, please describe the scope and purpose of your examination of PGW "Customer Service, Billing and Collection."**

A.20: We reviewed the effectiveness of PGW's new customer information/billing system, the performance of its call center, its Customer Responsibility Program, its conservation programs, its senior discount program, its collection policies and procedures, and its process for terminating non-payment customers.

Q.21: **Please describe your general conclusions regarding PGW's customer service, billing and collection.**

A.21: PGW's level of customer service, as measured by abandonment phone rates and response time of the call center, is one of the worst in the industry. The cost of staffing PGW's call center is high. PGW does not have a functioning and accurate customer billing system. PGW has placed insufficient emphasis on reducing delinquent payments and uncollectible accounts. PGW's shut-off policy, as specified in its current tariff, is too lenient. PGW has a significant backlog of unprocessed customer complaints.

PGW's Customer Responsibility Program complies with the provisions of the Gas Act, and PGW does a good job of receiving available grants for low income assistance. PGW's Conservation Works Program provides cost effective savings to PGW customers. PGW provides a Senior Citizen Assistance Program to all senior based solely on age, without regard to need.

Q.22: **Referring to Chapter IX of the audit report please, describe the scope and purpose of your examination of PGW "Gas Distribution and Supply Management."**

A.22: We reviewed the effectiveness and efficiency of PGW's gas management and distribution operations, and the adequacy of its gas safety program, including PGW's gas supply portfolio, system maintenance efforts, the adequacy of facilities, and materials inventory levels.

Q.23: **Please describe your general conclusions regarding PGW's gas distribution and supply management.**

A.23: While PGW's distribution system planning makes efforts to balance cost, reliability and safety, the lack of adequate funding has adversely affected PGW's efforts to upgrade its aging distribution network. PGW's cast iron pipe replacement program for the last six years was inadequate, and current budgets do not provide for recovering the progress lost in that period. Cast iron main breaks are the biggest challenge to the safety of PGW's distribution network.

PGW is acquiring gas at a reasonable cost, and it has an appropriate gas supply management strategy. PGW's facilities are utilized in an appropriate manner, and it has reduced its materials inventory by 21.8 percent since 1996.

Q.24: **Referring to Chapter X of the audit report, please describe the scope and purpose of your examination of PGW's "Financial Management."**

A.24: We evaluated the effectiveness and efficiency of PGW's financial management functions to determine if PGW had compromised its long-term financial integrity, and if PGW has an internal control environment that ensures accurate and timely financial reporting.

Q.25: **Please describe your general conclusions regarding PGW's financial management.**

A.25: Due to its deteriorating financial position at the time of the audit, PGW was seeking rate relief from the PUC and loans from the City of Philadelphia to avoid a critical cash shortage. In previous years, PGW entered into financial transactions that have affected its cash flows, raised its debt to equity ratio, and ultimately reduced its financial flexibility.

The PFMC Board of Directors does not have a functioning audit committee. PGW's accounting systems are functioning effectively and provide, in a timely manner, the financial information needed by PGW.

Q.26: **Referring to Chapter XI of the audit report, please describe the scope and purpose of your examination of PGW's "Information Technology."**

A.26: We reviewed whether or not the information services provided are adequate for the current and future needs of PGW and whether or not the information technology department is effective in meeting the needs of other departments.

Q.27: ***Please describe your general conclusions regarding PGW's information technology.***

A.27: PGW lacks a clear long-term information technology strategy. The disastrous implementation of the new billing, collection and customer service system in July 1999 was primarily due to insufficient planning and preparation for the massive change in technology which was taking place, that is, moving from a mainframe to a client server environment. Several operational issues adversely affect information technology efficiency and effectiveness, and PGW needs to establish a more cost conscious information technology environment.

Q.28: **Referring to Chapter XII of the audit report, please describe the scope and purpose of your examination of PGW's "Readiness for Industry Restructuring and Retail Competition."**

A.28: We reviewed PGW's plans for industry restructuring and retail competition required by the Gas Act, and assessed whether PGW had given adequate consideration to meeting PUC regulatory requirements.

Q.29: **Please describe your general conclusions regarding PGW's readiness for industry restructuring and retail competition.**

A.29: PGW has yet to develop the procedures and data bases needed to fully comply with the PUC's financial and operational reporting requirements. PGW is currently more limited in its marketing ability than potential

competitors and will need to develop additional programs, data bases, and price schedules to compete effectively in the restructured gas industry.

Q.30: **Referring to Chapter XIII of the audit report, please describe the scope and purpose of your examination of PGW's "Human Resource Management."**

A.30: We assessed PGW's human resource function including its compensation systems, its training programs, and its safety program.

Q.31: **Please describe your general conclusions regarding PGW's human resource management.**

A.31: PGW has not managed its wage and salary programs effectively, and its training programs do not meet current needs. The high rate of absenteeism costs PGW in excess of six million dollars per year. PGW's total fringe benefits as a percentage of salary are higher than the industry average.

Q.32: **Referring to Chapter XIV of the audit report, please describe the scope and purpose of your examination of PGW's "Diversity and Equal Employment Opportunity."**

A.32: We analyzed PGW's diversity and equal employment opportunity (EEO) programs including the adequacy of PGW's EEO plan and its goals and management accountability for achieving these goals.

Q.33: **Please describe your general conclusions regarding PGW's diversity and equal employment opportunity.**

A.33: While PGW did not prepare Affirmative Action Plans (AAPs) for the years 1996 to 1999, its minority hiring in those years indicates that PGW is making progress towards reaching parity, that is, 80 percent utilization. Management accountability for diversity needs to be increased. While PGW has an appropriate program for making materials purchases from minority-owned business enterprises and women-owned business enterprises, its programs for disabled-person-owned business enterprises needs to be improved.

Q.34: **Referring to Chapter XV of the audit report, please describe the scope and purpose of your examination of PGW's "Proposed Work Management and Manpower Planning Program."**

A.34: We designed a work management and manpower planning program for PGW, prepared a detailed implementation plan, and prepared specifications for the associated systems.

Q.35: **Please describe your general conclusions regarding PGW's proposed work management and manpower planning program.**

A.35: The Manpower Planning Model (MPM) designed n this phase of the audit can be developed and implemented in a nine-month period. When implemented, it will provide PGW managers with a tool to forecast workloads and develop staffing plans.

Q.36: **Does this conclude your testimony?**

A.36: Yes.

Exhibit I

Résumé of Perry L. Wheaton

Perry L. Wheaton
BWG Managing Director

Project Role: Project Director

Summary of Qualifications

Mr. Wheaton, a CPA, has over thirty years of diversified management consulting and auditing experience and has performed financial operations and/or affiliate interest reviews for over twenty-five utilities. He has directed twenty-four management reviews of public utilities for regulatory commissions. A Certified Management Consultant, he has served as chairman of the General Committee of Management Services for the New York State Society of CPAs and as regional vice president and director of the Institute of Management Consultants. He was a senior vice president of the Putnam Financial Services Company where he was responsible for the information systems operations of this major mutual fund investment management company. In his twelve years as an auditor and consultant with an international accounting firm, he had extensive experience in reviewing the financial and systems operations of utilities, financial services companies, energy companies, and manufacturers. Mr. Wheaton has an AB from Hamilton College and an MBA in public accounting from Rutgers University.

Utility Consulting Experience

- Directed the review of Pacific Gas & Electric's financial condition for the California PUC in the midst of the California energy crisis. The audit addressed holding company, power purchases, and nonregulated subsidiary activities in the California energy markets. (2001)

- Directed a project for Public Service Electric & Gas to prepare its affiliate interests compliance plan which was filed with the New Jersey BPU during the second quarter of 2000. (2000)

- Directed a management audit of the affiliate relations of Southern Connecticut Gas Company for the Connecticut DPUC. A major focus of this audit was to assess questionable activities performed by the utility's nonregulated affiliates. (2000)

- Directed the review of Connecticut Light & Power Company's (CL&P) financial condition for the Connecticut DPUC in the midst of Northeast Utilities' (CL&P's parent) financial crisis, which was precipitated by the Millstone nuclear crisis. Also assisted the DPUC in developing a strategy for dealing with the crisis and to prepare for industry deregulation. (1998)

- Directed the review of the financial impact of the Three Mile Island accident on its owners, Metropolitan Edison and Penelec, for the Pennsylvania PUC. Served as a lead witness before the PUC and a special US congressional committee investigating the accident. (1980)

- Directed a prudence review of the Maine Yankee Atomic Power Company for the Maine PUC. Subsequently reviewed the prudence of the decision to shut down the plant prematurely. (1997)

- Project director for the financial/management audit of Pacific Gas & Electric's $600 million of expenditures, from 1990 to 1992, for demand-side management for the California Public Utilities Commission (CPUC). (1994)

- Project director for the financial/management audit of Southern California Edison's Research, Demonstration and Development Department's $300 million of expenditures from 1988 to 1992 for the CPUC. (1993)

- Lead consultant for determining net merger-related savings in the management audit of the merger of SBC and Ameritech for the Illinois Commerce Commission. (2000)

- Reviewed the affiliate relationships of Peoples Natural Gas with its parent, Consolidated Natural Gas, as part of the audit of Peoples for the Pa PUC. (1994)

- Reviewed the affiliate relationships of New Jersey Natural Gas with its parent New Jersey Resources Corporation and its seven affiliated companies as part of the management audit for the New Jersey BRC. (1993)

- Developed a plan to integrate the accounting and financial operations of Northeast Utilities (NU) and Public Service Company of New Hampshire (PSNH). (1991)

- Technical advisor for the review of financial management and involvement of United Illuminating and Northeast Utilities in the Seabrook Nuclear project in the retrospective audit of the project for the Connecticut DPUC. (1987)

- Directed a review of the financial functions of General Public Utilities (GPU) and its five subsidiaries as part of a system-wide "Expenditure Analysis Program." Reviewed cost allocation methods used by GPU to account for transactions among its five subsidiaries. Study resulted in the reorganizing and downsizing of the financial functions and a streamlining of management reports. (1989)

- Co-director of a study mission of utility executives that visited the United Kingdom to assess the privatization and deregulation of the electric utility industry in Great Britain. (1991)

Regulatory Audit Experience

- Project Director for the following commission-mandated management reviews:

  -- Pacific Gas & Electric - Financial Condition -- California PUC (2001)
  -- California Electric Utilities - Px Prices -- California PUC (2000)
  -- Philadelphia Gas Works -- PA PUC (2001)
  -- Southern Connecticut Gas - Affiliate Relations -- CT DPUC (2000)
  -- Connecticut Light & Power - Financial Condition -- CT DPUC (1998)
  -- Maine Yankee Atomic Power -- Maine PUC (1997)
  -- Northeast Utilities - Nuclear Operations -- CT DPUC (1997)
  -- Connecticut Light & Power - Diagnostic Audit -- CT DPUC (1996)
  -- Pacific Gas & Electric - DSM -- California PUC (1994)
  -- Los Angeles Department of Water and Power -- LA City Council (1994)
  -- Southern California Edison - RD&D -- California PUC (1993)
  -- Maryland Natural Gas -- Maryland PSC (1990)
  -- Consolidated Edison Company -- New York PSC (1988)
  -- Apollo/Carnegie Gas Companies -- Pennsylvania PUC (1988)
  -- General Public Utilities -- Pennsylvania PUC (1980)
  -- Northeast Utilities - Gas Properties -- CT DPUC (1981)
  -- Central Hudson Gas & Electric -- New York PSC (1980)
  -- New York State Electric & Gas -- New York PSC (1979)
  -- Pennsylvania Gas & Water -- Pennsylvania PUC (1978)
  -- United Illuminating --CT DPUC (1977)
  -- Salem Nuclear Project -- Public Advocate of New Jersey (1977)
  -- Nine Mile Two Prospective -- New York PSC (1981)
  -- Seabrook Phase I -- CT DPUC (1987)
  -- New York Tel/Construction Program Planning -- New York PSC (1986)

Expert Witness Experience

Mr. Wheaton has appeared as an expert witness with respect to the following audits:

- Southern Connecticut Gas -- CT DPUC (2001)
- Pacific Gas & Electric -- California PUC (2001)
- Maine Yankee Atomic Power - Maine PUC (1997)
- General Public Utilities - PA PUC and US Congressional Subcommittee (1980)
- New York State Electric & Gas - New York PSC (1979)
- United Illuminating - CT DPUC (1977)
- Salem Nuclear Project - NJ BPU and PA PUC (1977)
- Nine Mile Two Prospective - New York PSC (1981)

Work Experience

- Managing Director and Founder, Barrington-Wellesley Group, Inc. (1990 - present)
- Vice President and Board Member, Theodore Barry & Associates. (1976 - 1981, 1985 - 1990)
- Senior Vice President, Putnam Investor Services, Inc. Responsible for information resource management activities. (1982 - 1985)
- Manager, Management Consulting. Coopers & Lybrand. (1964 - 1976)

OTS Statement No. 1
Witness: Charles T. Weakley, III
Date: April 10, 2001

5/23/01
DJS Phila, PA

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

Philadelphia Gas Works

Docket No. R-00006042

Direct Testimony

Of

Charles T. Weakley, III

Office of Trial Staff

Concerning: Base Rate Increase

Q. STATE YOUR FULL NAME, EMPLOYER AND BUSINESS ADDRESS.

A. Charles T. Weakley, III. I am employed by the Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, PA 17105-3265.

Q. WHAT IS YOUR POSITION WITH THE PENNSYLVANIA PUBLIC UTILITY COMMISSION?

A. I am a Fixed Utility Financial Analyst in the Office of Trial Staff (OTS).

Q. WHAT ARE YOUR DUTIES AS AN ANALYST IN OTS?

A. My duties as an OTS analyst include participation in formal base rate proceedings as an expert witness, with responsibility for the preparation and presentation of OTS exhibits, schedules and testimony. My education and professional background are set forth in Appendix A, which is attached.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of this testimony is to recommend several changes to the Base Rate Filing of the Philadelphia Gas Works (PGW or Company). Specifically, I will address the base rate increase and the OTS recommended adjustments to the supporting financial statements.

Q. WOULD YOU PROVIDE A BRIEF HISTORY OF THE COMPANY'S RATE FILINGS?

A. PGW's last base rate case was in 1991, before the Philadelphia Gas Commission. Since 1991, PGW has been able to meet its debt service coverage requirement without receiving any base rate increase from the Philadelphia Gas Commission. Since PGW was placed under the Pennsylvania Public Utility Commission's jurisdiction, it has filed an expedited interim base rate increase, a gas cost rate filing and this base rate increase. In this proceeding, PGW's requested base rate increase results in 2.87x debt service coverage for the 1975 Ordinance Bond, 3.01x debt service coverage for the 1998 Ordinance Bond, 29.69x debt service coverage for the 1998 Ordinance Subordinate Bond and a cash flow balance of $10.2 million at the end of the year. In addition, PGW now has the ability to file quarterly Gas Cost Rate filings with the Pennsylvania Public Utility Commission that will alleviate potential problems associated with increases in gas costs.

Q. WHAT IS THE PHILADELPHIA GAS WORKS RATE REQUEST IN THIS PROCEEDING?

A. The Philadelphia Gas Works has requested a total increase of $65 million to base rates. The Company is requesting a $45 million increase in its customer charge plus a $20 million increase in its volumetric rates.

However, on February 21, 2001, the Commission granted PGW a base rate increase of $11 million that was included in the customer charge. This interim increase effectively reduces the Company's customer charge requested increase from $45 million to $34 million and reduces its overall request to $54 million.

Q. PLEASE SUMMARIZE YOUR RECOMMENDED BASE RATE INCREASE.

A. I recommend that PGW's total revenue increase be limited to $33 million. This increase provides sufficient revenues for the $18 million city payment, net earnings of $33.2 million, positive cash flow for the year ended August 31, 2001 and adequate debt service coverage.

Q. PLEASE INDENTIFY THE OTHER OTS WITNESSES SUBMITTING TESTIMONY IN THIS PROCEEDING.

A. OTS Statement No. 2 is the Direct Testimony of Joseph Kubas. Mr. Kubas will propose adjustments to the Company's revenues claimed in this proceeding. He has proposed adjustments for customer growth and usage per customer.

OTS Statement No. 3 is the Direct Testimony of Paul J. Metro. Mr. Metro will recommend changes to the Company's customer charge and rate structure.

OTS Statement No. 4 is the Direct Testimony of David F. Keim. Mr. Keim will propose changes to the Company's social programs.

OTS Statement No. 5 is the Direct Testimony of Kevin L. Deardorff. Mr. Deardorff will discuss debt service coverage.

Q. DID YOU INCORPORATE ALL OTS PROPOSALS INTO YOUR SCHEDULES?

A. Yes. OTS Exhibit No. 1, Schedule 1 through Schedule 4 reflects OTS recommended adjustments in this proceeding. OTS recommends that PGW's base rate increase be limited to $33 million.

Q. REFERENCE OTS EXHIBIT NO. 1, SCHEDULE 1 AND PROVIDE A BRIEF EXPLANATION OF THE OTS ADJUSTMENTS.

A. The revenue adjustment of $34.3 million includes Mr. Kubas' increase in the number of customers and usage per customer. I have included in revenues the $11 million interim rate increase and the $60.9 million related to the Company's social programs. The $20.5 million increase to gas costs corresponds to the revenue adjustments. The $965,000 revenue and expense adjustments are based on Mr. Metro's recommendation to remove the electric expenses from the GCR and include these expenses in base rates. The expense increase of $60.9 million is based on Mr. Keim's recommendation to remove the senior citizens discount, the conservation

program and the customer responsibility program discounts from the gas cost rate (GCR) and include these expenses in base rates. The remaining adjustments to the income statement are explained below.

Q. WHAT ADJUSTMENTS ARE YOU RECOMMENDING IN THIS PROCEEDING?

A. I am recommending three adjustments. 1) I am recommending an adjustment to the Company's bad debt expense claim based on historic write-off ratio. 2) I am recommending that Rate Case Expense be normalized over a two-year period. 3) I am recommending that promotional allowances be excluded from rates.

BAD DEBT EXPENSE

Q. IN THIS PROCEEDING THE COMPANY HAS MADE A CLAIM FOR UNCOLLECTIBLE ACCOUNTS EXPENSE. WOULD YOU BRIEFLY DEFINE WHAT IS MEANT BY UNCOLLECTIBLE ACCOUNTS?

A. Uncollectible accounts or what PGW refers to, as bad debts are specific receivables that are determined to be uncollectible in whole or in part, either because the debtors do not pay or because the creditor finds it impracticable

to enforce payment. Those accounts deemed uncollectible are charged against income.

Q. HOW DO UTILITIES GENERALLY RECOGNIZE UNCOLLECTIBLE ACCOUNTS FOR RATEMAKING PURPOSES?

A. Generally, for ratemaking purposes, utilities compute uncollectible accounts expense on an annual prospective basis. While the uncollectible accounts expense is a prospective claim, the proper calculation begins with an historic analysis of actual net write-offs to gross revenues to develop an historic write-off ratio. Net write-offs are gross write-offs less recoveries of amounts previously written off. This ratio is then applied to projected revenues to determine the proper prospective allowance.

Q. HOW WAS THE COMPANY'S CLAIM FOR UNCOLLECTIBLE ACCOUNTS EXPENSE DEVELOPED?

A. The Company's bad debt expense is based on funding the bad debt reserve balance. The Company projects the ending accounts receivable balance by assuming that 90.5% of billed revenues will be collected and by estimating amounts that will be written-off during the year. The Company's then takes the estimated the ending accounts receivable balance and applied a reserve factor of 35% resulting in its claimed bad debt expense for the future test year. The Company's bad debt expense is the amount needed to adjust the

bad debt reserve balance to the desired level. The Company's bad debt claim should not be used in setting rates since it does not reflect actual write-offs.

Q. WHAT IS THE COMPANY CLAIM FOR UNCOLLECTIBLE ACCOUNTS EXPENSE IN THIS PROCEEDING?

A. The Company's revised claim for bad debt expense is $65 million.

Q. WHAT DO YOU RECOMMEND AS THE APPROPRIATE ALLOWANCE FOR UNCOLLECTIBLE ACCOUNTS EXPENSE?

A. OTS Exhibit No. 1, Schedule 4, details my proposed allowance of $61.1 million. I recommend a write-off percentage of 7.6160% based on a five-year average of actual net write-offs to gross revenues. When the write-off percentage is applied to the projected total future test year sales revenues of $802.6 million the result is an allowance of $61.1 million.

I recommend that the write-off ratio of 7.6160% be employed to determine the uncollectible accounts expense attributable to the final base rate gas revenues to be determined in this proceeding.

Q. WHAT IS YOUR SUPPORTING RATIONALE FOR BASING A PROSPECTIVE UNCOLLECTIBLE ACCOUNTS ALLOWANCE ON AN HISTORIC ANALYSIS?

A. OTS proposes the use of a five-year analysis of prior years uncollectible accounts expense. A five-year historic analysis is current enough to reflect present customer payment tendencies and sufficiently long enough to levelize any fluctuation in write-off activity by the Company. Normally, OTS uses a three-year analysis but with the Company's billing and collection problems, I am recommending use of the five-year analysis shown on OTS Exhibit No. 1, Schedule 4.

RATE CASE EXPENSE

Q. IN THIS PROCEEDING, THE COMPANY HAS MADE A CLAIM FOR RATE CASE EXPENSE. WOULD YOU BRIEFLY EXPLAIN THE NATURE AND TYPE OF EXPENSES CLASSIFIED AS RATE CASE EXPENSE?

A. The estimated costs that comprise a company's allowable claim for rate case expense are those that are incurred to compile, present and defend a request for a base rate increase before the Commission. The estimated costs that are typically found in a rate case expense claim include legal fees for outside counsel, fees to outside consultants, printing, collating and postal expenses.

Q. HOW DOES THE COMMISSION TREAT RATE CASE EXPENSE FOR RATEMAKING PURPOSES?

A. The Commission views prudently incurred rate case expense as an ongoing, although recurring at irregular intervals, expense relative to the rendering of utility service. As such, rate case expense is subject to normalization for ratemaking purposes. Amortization of rate case expense is not permitted.

Q. WHAT IS THE COMPANY'S CLAIM FOR RATE CASE EXPENSE AND WHAT TREATMENT IS THE COMPANY PROPOSING IN THIS PROCEEDING?

A. The Company has claimed $875,000 of rate case expense as an annual expense for the future test year. The estimated total of $875,000 consists of expenses associated with the base rate and gas cost proceedings in fiscal year 2000-01.

Q. WHAT ADJUSTMENTS TO RATE CASE EXPENSES ARE YOU RECOMMENDING?

A. I am recommending two adjustments to rate case expenses included in this filing. First, I recommend that the consulting fee of $100,000 budgeted for the Lukens Energy Group, Inc. be disallowed. Second, I recommend that the remaining rate case expense be normalized over a two-year period.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend that rate case be reduced by a total of $362,000 (see OTS Exhibit No. 1, Schedule 5).

Q. WHAT IS THE BASIS FOR DISALLOWING THE BUDGETED $100,000 CONSULTING FEE?

A. PGW has engaged the Lukens Energy Group, Inc. to review the cost-of-service study and develop a revenue requirement that PGW would require if it were an investor owned utility. This information is irrelevant to this proceeding. The testimony presented does not support any of the Company's claims in this case and the associated costs should be disallowed.

Q. WHAT IS THE BASIS FOR NORMALIZING THE REMAINING RATE CASE EXPENSE OVER TWO YEARS?

A. PGW does not have a recent history of filing base rate cases. PGW's last base rate increase was in 1991. The Company filed this case in January 2001 and the result of its restructuring case will become effective either late 2002 or early 2003. Two years is a reasonable normalization period. PGW used a two-year period for its rate case expense incurred during its interim filing knowing they were required to file this case in January, 2001.

PROMOTIONAL EXPENSES

Q. HAS THE COMPANY INCLUDED A CLAIM FOR PROMOTIONAL ACTIVITIES AND RELATED PAYMENTS IN THIS PROCEEDING?

A. Yes. The Company budgeted $1,645,000 for promotional expense (See PGW Volume II, Revised Exhibit C-4). It was allocated as follows; Major Accounts - $1,210,000, and Residential / Light Commercial - $435,000 allocated for various residential conversion incentives for developer and customers for appliance conversions (see OTS Exhibit No. 1, Schedule 6). These amounts were determined based upon selected marketing targeted at alternative fuels.

Q. WHAT IS THE NATURE OF THESE PROMOTIONAL ACTIVITIES?

A. Promotional dollars are used to compete against alternate fuel sources. These promotional dollars are aimed at new construction or existing facilities that wish to convert to natural gas. The incentive dollars are designed to offset the equipment costs to the customer and make the installation of gas appliances more attractive. Promotional activities are mainly incentive payments to attract new or expand existing demand for gas service. PGW's marketing department expects an increase in these

expenditures primarily due to the planned initiative to aggressively promote the use of natural gas in the market place.

Q. WHAT IS YOUR RECOMMENDATION WITH REGARD TO THESE EXPENDITURES?

A. I recommend that PGW's expenditures for these promotional activities be denied, in so far as they pertain to promoting the use of natural gas.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. Public policy would dictate that in an era of deregulation a level playing field for all forms of energy should be paramount. The electric industry and the gas industry are moving in the direction of deregulation To allow gas companies to recover these costs in base rates, in an attempt to promote switching to natural gas for heating, creates an unlevel competitive environment to the gas company's advantage. These costs are not currently being recovered in electric or gas companies distribution rates. Any costs entailed in the promotion of markets and customer growth should remain excluded from rates. To allow the recognition of these costs in rates would only increase the cost of service for all energy consumers as gas companies increase promotion allowances to capture electric load and the electric companies respond in

kind. When viewed as a whole, there is no real proven benefit to ratepayers.

Q ARE YOU AWARE OF ANY COMMISSION DECISIONS DEALING WITH DISALLOWANCES OF THIS TYPE OF EXPENDITURE?

A. Yes. The Commission decided this issue at Pennsylvania Public Utility Commission v. Equitable Gas Company at Docket No. R-901595, entered November 11, 1990.

Q. WAS IT FOUND IN THAT DECISION THAT RATEPAYERS BENEFIT FROM PROMOTIONAL ACTIVITIES?

A. No. The decision was specific and it stated at 73 Pa. P. U. R., pp. 73-74, (1990):

> "Therefore, it is apparent that the gas Company with which developer or builder engages in cooperative advertising is likely to be the gas Company to which the home buyer will be connected for the duration of his or her ownership. The builder or developer may not choose a gas company on the basis of rates or service to the homeowner, the ultimate customer, but may choose a gas company on the basis of size of the promotional allowance or advertising allowance offered. Thus, the cooperative advertising benefits the

developer, the realtor, or builder, but not necessarily the ultimate ratepayers."

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

APPENDIX A

Professional and Educational Background
of
Charles T. Weakley, III

Education:

A.A. in Accounting, Harrisburg Area Community College, 1973.

B.B.A. in Administration, Pennsylvania State University, 1975.

Graduate Studies in Operations Management, Pennsylvania State University, 1977.

Employment:

Prior to accepting my position with the PUC, in the Bureau of Rates in February 1984, I was a Corporation Tax Officer with the Pennsylvania Department of Revenue.

I am a Certified Public Accountant, however, my license is currently inactive, since I am no longer in public practice. In addition, I am a Member of the Pennsylvania Institute of Certified Public Accountants and have three years of public accounting experience.

Testimony:

I have testified and/or submitted testimony in the following proceedings:

PECO Rate Case, R-842590, R-850152 and R-891364

Penn Power Rate Case, R-842740, R-850267 and R-870732

Met-Ed Rate Case, R-842770 and R-00922314

Penelec Rate Case, R-842771

Duquesne Light Rate Case, R-850021, R-860378 and R-870651

PECO - Gas Operations Rate Case, R-870629

Philadelphia Suburban Water Company Rate Case, R-870860 and R-891270

Peoples Natural Gas Rate Case, R-880961

Equitable Gas Rate Case, R-880971, R-901595 and R-912164

PECO-PGC No. 6, 1307(f) Proceeding, R-891290

T.W. Phillips Gas and Oil Co. PGC-90, R-891572

T.W. Phillips Gas and Oil Co. Rate Case, R-891566

Arrowhead Public Service Corporation Rate Case, R-891557

Peoples Natural Gas - PGC-90, 1307(f) Proceeding, R-901640

Peoples Natural Gas - PGC-91, 1307(f) Proceeding, R-911919

PECO-PGC No. 8, 1307(f) Proceeding, R-911976

West Penn Power - Petitions (CAAA, 1990) P-910511 and R-910512

Borough of Phoenixville - Rate Case, R-912038

Shenango Valley Water Company - R-912060 and R-00932798

Dallas Water Company, Inc. - R-00922326

Harvey's Lake Water Company, Inc. - R-00922327

Noxen Water Company, Inc. - R-00922328

Shavertown Water Company, Inc. - R-00922329

Pennsylvania Gas and Water Company (Spring Brook/Crystal Lake) R-00922404

Pennsylvania-American Water Company - R-00922428

Pennsylvania Gas and Water Company (Scranton) R-000922482

National Fuel Gas Distribution Corporation - R-00932548

Lemont Water Company, Rate Case, R-00932673

The Peoples Natural Gas Company, Rate Case, R-00932866

The Peoples Natural Gas Company, 1994-1307(f), R-00943028, C-945601

Equitable Gas Company - R-00943246

Pennsylvania Power & Light Company - R-00943271

The Peoples Natural Gas Company, 1996-1307(f), R-00963563

The Peoples Natural Gas Company, 1997-1307(f), R-00973896, R-00973928, A-122250F0007

Peco Energy Company - R-00973877, R-00973953

Pennsylvania Electric Company - R-00974009

Metropolitan Edison Company - R-00974008

Bell/ GTE Merger - A-310200F0002, A-310222F0002, A-310291F0003, A-311350F0002

The Peoples Natural Gas Company - Rate Restructuring - R-00994782

Equitable Gas Company - Rate Restructuring - R-00994784

UGI Utilities, Inc. - Rate Restructuring - R-00994786

PECO Energy Company - Rate Restructuring – R-00994787

National Fuel Gas Distribution Corporation – 1307(f) – R-00994898

UGI Utilities, Inc. – 1307(f) – R-00005281

Philadelphia Gas Works – Interim Rate Filing – R-00005654

OTS Exhibit No. 1
Witness: Charles T. Weakley, III
Date: April 10, 2001

5/23/01
OTS Phila, PA

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

Philadelphia Gas Works

Docket No. R-00006042

Exhibits To Accompany

The

Direct Testimony

Of

Charles T. Weakley, III

Office of Trial Staff

Concerning: Base Rate Proceeding

PHILADELPHIA GAS WORKS
INCOME STATEMENT
FISCAL YEAR ENDING AUGUST 31,2001

	8/8/00 Volume 11/10 Revised Budget 2000-01 (Dollars in Thousands)	OTS Ajustments (Dollars in Thousands)	OTS Ajusted Revised Budget 2000-01 (Dollars in Thousands)
OPERATING REVENUES			
Non-Heating	$121,544		$121,544
Gas Transport Service	3,656		$3,656
Heating	535,415	$34,263	$569,678
Proposed Base Rate Increase	65,000		$33,000
CRP/CWP/Senior Discount		$60,937	$60,937
Interim Increase	0	$11,000	$11,000
Electric Cost from GCR		$965	$965
Unbilled Adjustment	1,844		$1,844
Total Gas Revenues	**$727,459**		**$802,624**
Appliance Repair & Bill Paid Turn-Ons	13,233		13,233
Other Operating Revenues	14,793		14,793
Total Other Operating Revenues	28,026		28,026
Total Operating Revenues	**$755,485**		**830,650**
OPERATING EXPENSES			
Natural Gas	$394,576	$20,479	$415,055
Other Raw Material	10		$10
Sub-Total Fuel	$394,586		$415,065
Contribution Margins	$360,899		$415,585
Gas Processing	13,968		13,968
Field Services	33,061		33,061
Distribution	13,601		13,601
Customer Affairs	31,208		31,208
Electric Costs		965	965
Social Programs		60,937	60,937
Bad Debt Expense	65,297	(4,169)	61,128
Marketing & Point of Sale Expenses	6,713	($1,645)	5,068
Administrative & General	45,407	($362)	45,045
Health Insurance	26,290		26,290
Capitalized Fringe Benefits	(5,333)		(5,333)
Capitalized Administrative Charges	(6,815)		(6,815)
Regulatory Asset Amortization	3,750		3,750
Amortization of Restructuring Costs	965		965
Year 2000 & Deregulation Amortization	888		888
Pensions	1,376		1,376
Taxes	6,548		6,548
Amortization of Non-Recurring IT Costs	0		0
Personnel Reductions/Retirements	(2,500)		(2,500)
Cost Savings/Productivity Improvements	(10,000)		(10,000)
Sub-Total Other Oper. & Maintenance	$224,424		$280,150

PHILADELPHIA GAS WORKS
INCOME STATEMENT
FISCAL YEAR ENDING AUGUST 31,2001

	8/8/00 Volume 11/10 Revised Budget 2000-01 (Dollars in Thousands)	OTS Ajustments (Dollars in Thousands)	OTS Ajustments Revised Budget 2000-01 (Dollars in Thousands)
Depreciation	$33,381		$33,381
Cost of Removal	2,500		$2,500
To Clearing Accounts	(3,344)		($3,344)
	$32,537		$32,537
TOTAL OPERATING EXPENSES	**$651,547**		**$727,752**
OPERATING INCOME	**$103,938**		**$102,898**
Other Income	6,106		6,106
Income Before Interest	$110,044		$109,004
Interest			
Long-Term Debt	47,871		47,871
Other	6,102		6,102
AFUDC	(346)		(346)
Loss From Extinguishment of Debt	4,162		4,162
Total Interest	$57,789		57,789
NET INCOME	$52,255		$51,215
City Payment	18,000		$18,000
Net Earnings	**$34,255**		**$33,215**

PHILADELPHIA GAS WORKS
CASH FLOW STATEMENT
FISCAL YEAR ENDING AUGUST 31,2001

	8/8/00 Volume 11/10 Revised Budget 2000-01 (Dollars in Thousands)
SOURCES	
Net Income	$51,215
Depreciation and Amortization	42,827
Earnings on Restricted Funds	451
Impact of Refunded Debt Service	
Increased/(Decreased) Other Liabilities	3,682
Available From Operations	$98,175
Funds Required for Capital	34,000
Capital Leasing	6,000
Temporary Financing	0
TOTAL SOURCES	**$138,175**
USES	
Net Construction Expenditures	$62,293
Funded Debt Reduction:	
Revenue Bonds	34,192
PMA Leases/Subordinate Debt	1,065
Capital Leases	6,901
Temporary Financing	0
Notes Payable- CNG Acquisition	59
Temporary Financing Repayment	
Distribution of Earnings	18,000
Additions To (Reductions of) Non-Cash Working Capital	14,891
Cash Needs	137,401
Cash Surplus (Shortfall)	774
TOTAL USES	**$138,175**
Cash- Beginning of Period	$8,425
Cash- Surplus (Shortfall)	774
ENDING CASH	$9,199
Internally Generated Funds	22,293
Outstanding Commercial Paper	97,000

PHILADELPHIA GAS WORKS
DEBT SERVICE COVERAGE
FISCAL YEAR ENDING AUGUST 31,2001

DEBT SERVICE COVERAGE	**8/8/00 Volume 11/10 Revised Budget 2000-01 (Dollars in Thousands)**
FUNDS PROVIDED	
Total Gas Revenues	$802,624
Other Operating Revenues	28,026
Total Operating Revenues	830,650
Other Income Less Restricted Funds	*6,557*
AFUDC (Interest)	346
TOTAL FUNDS PROVIDED	**$837,553**
FUNDS APPLIED	
Fuel Costs	$415,065
Other Operating Costs	312,687
Total Operating Expenses	727,752
PMA Lease Cost	0
$20.1M Capital Lease Cost	3,980
$23M Capital Lease Cost	3,997
Less: Non-Cash Expense	37,272
TOTAL FUNDS APPLIED	**$698,457**
Funds Available to Cover Debt Service	139,096
Add-back Lease Costs	7,977
Funds Available *Excluding* Lease Costs	147,073
1975 Ordinance Bonds Debt Service	51,611
Debt Service Coverage 1975 Bonds	2.85
Net Available after Prior Debt Service	95,462
PMA & Other Capital Leases	7,977
Net Available after Prior Capital Leases	87,485
1998 Ordinance Bonds Debt Service	29,449
Debt Service Coverage New Bonds	2.97
Net Available after New Debt Service	58,036
1998 Ordinance Subordinate Bond Debt Service	1,990
Debt Service Coverage Subordinate Bond	29.16

PHILADELPHIA GAS WORKS
OTS CALCULATION OF BAD DEBT EXPENSE
FISCAL YEAR ENDED AUGUST 31, 2001
(Dollars in Thousands)

YEAR	BILLED GAS REVENUES (1)	BAD DEBT EXPENSE (2)	BAD DEBT % OF SALES (3) = (2) / (1)
1995	$477,601	$37,518	7.8555%
1996	$539,119	$33,975	6.3019%
1997	$548,455	$39,149	7.1381%
1998	$497,985	$45,973	9.2318%
1999	$482,700	$36,456	7.5525%
		AVERAGE	7.6160%

OTS ADJUSTED TOTAL GAS REVENUES	$802,624
AVERAGE BAD DEBT % OF SALES	7.6160%
OTS RECOMMEND BAD DEBT EXPENSE	**$61,128**

PHILADELPHIA GAS WORKS
OTS CALCULATION OF RATE CASE EXPENSE
FISCAL YEAR ENDED AUGUST 31, 2001
(Dollars in Thousands)

TOTAL RATE CASE EXPENSE CLAIM	$825
LESS GCR	200
LESS FEES DISALLOWED	100
	525
NORMALIZED OVER 2-YEARS	2
ANNUAL ALLOWANCE	$263

BASE RATE

ANNUAL ALLOWANCE	$263
PLUS GCR	200
TOTAL ANNUAL ALLOWANCE	463
LESS COMPANY CLAIM	825
OTS ADJUSTMENT	**($362)**

RESPONSE TO OFFICE OF CONSUMER ADVOCATE DATA REQUEST REGARDING PGW'S RATE PROCEEDING

Question OCA-Set 5-5: Regarding the reply to OCA-II-23a, please explain how the budgeted promotional expense amounts of $1,210,000 and $435,000 were determined.

Response provided By: Craig White -- Senior Vice President, Marketing and Supply Services

Response: These amounts were determined based upon selected marketing programs targeted at selected alternate fuels. Due to a prolonged manpower shortage in the Marketing section coupled with problems associated with billing issues, Marketing has not had the opportunity in recent months to address these specific programs, however, it intends to proceed with these programs over the next several months. While disclosure of the programs is commercially sensitive, PGW can identify the assumptions used in arriving at the amounts presented.

Promotional dollars are used to compete against alternate fuel sources. These jobs may represent new construction or existing facilities that wish to convert to natural gas. The incentive dollars are designed to offset the equipment costs to the customer and make the job more attractive.

Major Accounts Assumptions:

Two (2) large jobs (LBS-L or LBS-XL) at $300,000 each equals $600,000.

Five (5) medium size jobs (LBS-L or LBS-S) at $100,000 each equals $500,000.

Eleven (11) small jobs (BPS) at $10,000 = $110,000.

Residential/Commercial Assumptions:

Heater Conversions – Five Hundred 500 at $500 each equals $250,000.

Water Heater Conversions – Three Hundred Fifty at $100 each equals $35,000.

Installer incentives (Heat) – Four Hundred at $250 each equals $100,000.

Miscellaneous = $50,000.

OTS Statement No. 1SR
Witness: Charles T. Weakley, III
Date: May 16, 2001

5/23/01 RJS
Phila, PD

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

Philadelphia Gas Works

Docket No. R-00006042

Surrebuttal Testimony

Of

Charles T. Weakley, III

Office of Trial Staff

Concerning: Base Rate Increase

Q. STATE YOUR FULL NAME, EMPLOYER AND BUSINESS ADDRESS.

A. Charles T. Weakley, III. I am employed by the Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, PA 17105-3265.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A. Yes. I have submitted OTS Statement No. 1 and OTS Exhibit No. 1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of this testimony is to respond to the rebuttal testimony of PGW witness Knudsen and PGW witness Bogdonavage.

RESPONSE TO PGW WITNESS KNUDSEN

Q. AT PAGE 8 OF PGW ST. 1.1, MR. KNUDSEN STATES "MR. WEAKLEY'S TESTIMONY, WHILE CERTAINLY MORE REASONABLE, ALSO DOES NOT CONDUCT THE NEEDED CASH FLOW ANALYSIS AND ALSO DOES NOT MAKE ANY EXPLICIT FINDING OF THE LEVEL OF CASH THAT THE COMPANY NEEDS." DO YOU AGREE?

A. No. OTS Exhibit No. 1, Schedule 2 is my cash flow analysis for the fiscal year ended August 31, 2001. This schedule shows an ending cash balance

of $9.2 million, which compares to the Company's filed request of $10.2 million. Since the Company filed its base rate increase, the Commission has approved an interim base rate settlement that allowed an increase of $11 million in the customer charge and $7 million increase in the GCR. This interim increase was effective March 1, 2001. This settlement will enhance the Company's ending cash levels by approximately $12.5 million over the amounts included in this proceeding and results in an ending cash balance of $21.7 million ($9.9+$7+$5.5). The Company will collect the $7 million from the GCR increase, since the recovery factor was calculated over the remaining volumes and $5.5 million ($11 Million ÷ 2) from the increase in the customer charge for the six month period March 2001 through August 2001.

Q. AT PAGE 5 OF PGW ST. 1.1, MR. KNUDSEN STATES "WHILE THE EFFECT IS NOT AS NEGATIVE, MR. WEAKLEY'S RECOMMENDATION ALSO DOES NOT SATISFY PGW'S CASH REQUIREMENTS IN THE FOUR MONTHS FOLLOWING THE FISCAL YEAR, OR ALLOW THE NEEDED LEVEL OF CASH FROM EXTERNAL AND INTERNAL SOURCES AT THE END OF THE FISCAL YEAR---$30 TO $35 MILLION." DO YOU AGREE?

A. No. This statement is not based on the future test year used in this proceeding but refers to the fiscal year ended August 31, 2002. These

projections of income and cash flow do not include the changes to the Company's budget recommended by OTS but include projected increases in the cost of gas, bad debts and the OTS recommended increase of $44 million. If these adjustments associated with the $44 million increase were included in the projections the ending cash balance would be positive. Since PGW collects approximately 70% of its total revenues over the winter heating season, the monthly cash flow for the first four months (September to December) could be negative and still satisfy PGW's annual cash requirement.

RESPONSE TO PGW WITNESS BOGDONAVAGE

Q. AT PAGE 4 OF PGW ST. 3.1, MR. BOGDONAVAGE STATES "WHILE I AM ADVISED THAT PGW'S RATES CAN NOT BE INCREASED IN THIS PROCEEDING BEYOND THE AMOUNT IT ORIGINALLY REQUESTED, ANY ANALYSIS OF ITS REVENUE REQUIREMENT, AND ANY ADJUSTMENTS THERETO, SHOULD BE MADE FROM PGW'S UPDATED FULLY FORCASTED ANALYSIS." DO YOU AGREE?

A. No. The Company currently has its annual GCR filing pending. Any changes to the projected cost of gas will be decided in the Company's annual GCR filing. The Company's analysis extends twelve months past the future test year.

Q. DOES THIS CONCLUDE YOU SURREBUTTAL TESTIMONY?

A. Yes.

OTS Statement No. 2
Witness: Joseph Kubas
Date: April 10, 2001

5/23/01 Phila, PA

RJS

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

Philadelphia Gas Works

Docket No. R-00006042

Direct Testimony

of

Joseph Kubas

Office of Trial Staff

DOCUMENT
FOLDER

Concerning:

Revenue

Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?

A. My name is Joseph Kubas and my business address is Pennsylvania Public Utility Commission, P. O. Box 3265 Harrisburg PA 17105-3265.

Q. IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am employed as a Fixed Utility Valuation Engineer with the Office of Trial Staff.

Q. WHAT IS YOUR EDUCATIONAL AND EMPLOYMENT EXPERIENCE?

A. An outline of my education and employment experience is attached as Appendix A.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony is to address the operating revenue issues related to Philadelphia Gas Works' (PGW or Company) request for $65,000,000 in additional annual revenue filed January 4, 2001. However, since the filing of this base rate increase, the Commission has granted the Company an increase in revenue of approximately $11,000,000 related to a previous case at Docket R-00005654. This increase was not reflected in the

Company's filing. The impact of this increase is to effectively reduce the instant base rate increase to $54,000,000.

Q. WHAT IS A TEST YEAR AND WHAT TEST YEAR HAS THE COMPANY SELECTED IN THIS CASE?

A. There are two types of test years. A historic test year is a twelve-month period selected by a Company that represents a recent full year of actual data. A future test year normally represents a year of actual and projected data ending one year after the end of the historic test year. In this case, the Company selected a future test year ending August 31, 2001. This future test year includes projected customer data, sales and revenue.

A. Present and Proposed Operating Revenue

Q. WHAT ARE THE COMPANY'S PRESENT AND PROPOSED OPERATING REVENUES FOR THE TEST YEAR ENDING AUGUST 31, 2001?

A. The Company did not provide operating revenues for the future test year ending August 31, 2001 using present rates. The Company is requesting total adjusted proposed operating revenues of $755,485,000 for the future test year ending August 31, 2001, as shown on PGW Volume II, Exhibit A-1-1. The

company determined proposed operating revenues by projecting the average number of customers paying the proposed customer charge, the projected volume of gas, and then making various adjustments for non billed revenue and miscellaneous revenue.

Q. WHAT IS THE COMPANY'S CLAIMED SALES VOLUME FOR THE TEST YEAR ENDING AUGUST 31, 2001?

A. The Company is projecting total sales volume of 58,498,387 Mcf. This number was obtained by totaling the sales volumes shown on PGW Exhibit HSG-1, Schedule 4A.

Q. WHAT IS THE TOTAL NUMBER OF CUSTOMERS THAT THE COMPANY IS CLAIMING FOR THE TEST YEAR ENDING AUGUST 31, 2001?

A. The Company is projecting total customers of 512,891. A breakdown by customer class is shown on PGW Exhibit HSG-1, Schedule 4-A.

Q. HOW DID THE COMPANY CALCULATE THE AVERAGE NUMBER OF CUSTOMERS AND AVERAGE USAGE PER CUSTOMER FOR THE TEST YEAR ENDING AUGUST 31, 2001?

A. The Company's customer count claim is based on projections and adjustments to historic data. The Company's average usage per customer claim is also based on projections and adjustments made to historic data. The average usage adjustments reflect the use of 4,555 normalized heating degree days to project total sales (See PWG Statement 4, page 4, line 16, the Direct Testimony of Craig W. White).

Q. ARE YOU IN AGREEMENT WITH THE COMPANY'S CLAIMED *AVERAGE USE PER CUSTOMER AND PROJECTED NUMBER OF* CUSTOMERS?

A. No. I am not. The Company has understated both the number of residential heating and commercial heating customers as well as the average use per customer for these classes.

B. Weather Normalization and Average Use Per Customer

Q. WHAT IS MEANT BY THE TERM "WEATHER NORMALIZATION"?

A. This term describes a methodology used to restate historic test year actual sales on a per customer basis to reflect the level of sales that the utility would

have achieved had actual heating or cooling degree days been what is considered "normal".

Q. PLEASE EXPLAIN THE TERM "HEATING DEGREE DAY".

A. The term "heating degree day" represents the variance from 65° Fahrenheit of the mean temperature for the day. The mean temperature for any twenty-four hour period is the sum of the high temperature plus the low temperature divided by two (2). For example if the high temperature for the day is 28° and the low temperature is 2°, the mean for the day is 15° ((28° + 2°)/2=15°). When the 15° mean temperature for the day is compared to 65° Fahrenheit, the result of 50 heating degree days (65° - 15° = 50).

Q. PLEASE EXPLAIN THE TERM 'NORMAL' AS IT RELATES TO HEATING DEGREE DAYS.

A. When used within a weather normalization calculation, the term normal refers to the level of heating or cooling degree days to which actual heating or cooling degree days, as occurring during the historic test period, will be compared.

Q. HOW IS THE 'NORMAL' LEVEL OF HEATING DEGREE DAYS COMPILED?

A. This data is compiled by the National Oceanic and Atmospheric Administration (NOAA), and is defined as follows:

> "Methodology: Normals have been defined as the arithmetic mean of a climatological element computed over a long time period. International agreement eventually led to the decision that the appropriate time period would be three consecutive decades." Climatography of the United States No. 81, Pennsylvania, January 1992.

Q. WHY IS A WEATHER NORMALIZATION ADJUSTMENT NECESSARY?

A. The establishment of a proper revenue requirement for ratemaking purposes is dependent upon the development of a normal test year. Variations in temperatures have a direct effect on a gas utility's sales related to heating. A colder than normal winter will result in increased gas sales while, conversely, a warmer than normal winter will result in reduced gas sales. It has become the recognized gas industry practice to normalize gas sales, revenues and expenses when actual degree days vary significantly from normal degree days for any given test year.

Q. ARE PGW'S RESIDENTIAL AND COMMERCIAL HEATING CUSTOMERS WEATHER SENSITIVE?

A. Yes. The heating load of PGW's heating customers is directly effected by the weather. These weather sensitive customers make up a substantial part of the residential and commercial classes.

Q. DID PGW INCORPORATE A WEATHER NORMALIZATION ADJUSTMENT INTO ITS BASE RATE FILING?

A. Yes. PGW witness Craig White describes how the Company used a 30 year average heating degree day (See PGW Statement No. 4, page 4, line 3).

Q. WHAT HISTORIC SALES PERIOD DID THE COMPANY USE TO DETERMINE TOTAL USAGE AND CUSTOMER COUNTS?

A. The Company used the time period September 1, 1999 through August 31, 2000 together with adjustments and projections to determine the total usage and customer counts for the test year ending August 31, 2001.

Q. HOW DID THE COMPANY DEVELOP THE NORMALIZED USAGE FOR EACH HEATING CUSTOMER CLASS?

A. The development of normalized usage for the residential and commercial heating class is a two step process. The first step is the development of base load usage. Base load usage is non heating load. To determine base load, the Company used the average sales during July, August, and September of 1998. This average amount was then assumed to be the base load in each month of the year. The second step is the development of normal heating usage. For this step, the Company adjusted actual historic sales using a computer model and a normal year of 4,555 heating degree days to determine the normal heating usage (See PGW Statement No. 4, page 4, line 3). The base load usage plus the normal heating usage is the total usage for that class. The projected monthly normalized sales was provided in the response to OTS-RE-5 (See OTS Exhibit No. 2. Schedule 1).

Q. USING THE METHOD DESCRIBED ABOVE, WHAT AVERAGE USAGE IS THE COMPANY CLAIMING FOR RESIDENTIAL HEATING AND COMMERCIAL HEATING CUSTOMERS?

A. The Company is claiming 100.94 Mcf per residential heating customer (41,679,007 Mcf divided by 412,910 customers). For the commercial heating class, the Company is claiming 445.21 Mcf per customer (8,486,143

Mcf divided by 19,061 customers). These numbers are shown on PGW Exhibit HSG - 1, Schedule 4A, page 1.

Q. WHAT CHANGES ARE YOU PROPOSING TO THE NUMBER OF CUSTOMERS AND AVERAGE USAGE PER CUSTOMER FOR THE RESIDENTIAL HEATING AND COMMERCIAL HEATING CUSTOMERS?

A, I recommend that the average usage per residential heating customer be increased to 103.91 Mcf per year. I also recommend that the average usage per commercial heating customers be increased to 477.11 Mcf per year. These recommendations are based on using actual sales for July, August and September of 2000 to determine base load. This base load together with the weather normalized heating load for the year 2000, should be used to project sales for each of these classes.

Q. WHY DO YOU RECOMMEND THAT ACTUAL SALES FOR THE YEAR 2000 BE THE BASIS FOR PROJECTING THE NUMBER OF CUSTOMERS AND WEATHER NORMALIZED USAGE IN THE PROCEEDING?

A, As described by Mr. Thomas E. Knudsen in PGW Statement 1, page 25, and in the response to various data requests, the Company states that it has a history of billing discrepancies that were corrected during 2000. I believe that the 2000 monthly data that I propose be used to establish normalized load is more accurate and up to date than the data used by the Commpany. The Commission should not rely on projections, base load, and heat load calculations made before these billing corrections were made.

Q. BASED ON THE ACTUAL NUMBER OF CUSTOMERS AND MONTHLY SALES VOLUMES IN 2000, WERE YOU ABLE TO DETERMINE THE BASE LOAD FOR EACH RESIDENTIAL HEATING CLASS CUSTOMER?

A. Yes. Reviewing the actual sales volumes and heating degree day data and assuming that base load is the sales in July, August, and September of 2000, I determined that the base load should be 2.25 Mcf per month per residential heating customer. This number was calculated by dividing the monthly sale for these months by the number of customers, as shown on OTS Exhibit No. 2, Schedule 3, page 1, column E, line 34 (2,891,933 divided by 1,285,035 = 2.25).

Q. USING THE AVERAGE BASE LOAD PER CUSTOMER, WERE YOU ABLE TO DETERMINE THE TOTAL BASE LOAD VOLUMES FOR THE RESIDENTIAL HEATING CLASS?

A. Yes. The total base load for the residential heating class is the number of customers each month multiplied by the average base load for the residential heating class. The base load each month is shown under column D of OTS Exhibit No. 2, Schedule 3, page 1.

Q. PLEASE DESCRIBE THE REMAINING COLUMNS ON OTS EXHIBIT NO. 2, SCHEDULE 3, PAGE 1.

A. The temperature sensitive load of customers is shown under column C and is the difference between the actual sales and base load for each month of 2000. The actual heating degree-days under column F were obtained from PGW Exhibit CW-1 and informal discovery. The temperature sensitive load under column G is the temperature sensitive load of customers divided by the actual heating degree-days. The normal heating degree-days under column H were obtained from PGW Exhibit CW-1. The normalized temperature sensitive load under column I is the temperature sensitive load times the normal number of heating degree-days each month. The normalized loads under column J is the base load under column D plus the normalized temperature

sensitive load under column I except for the months of July, August and September of 2000 which are the actual sales under column C.

Q. USING THE AVERAGE BASE LOAD PER CUSTOMER, WERE YOU ABLE TO DETERMINE THE AVERAGE ANNUALIZED NORMALIZED SALES FOR EACH RESIDENTIAL HEATING CLASS CUSTOMER?

A. Yes. Using dividing the total normalized usage of 44,069,57 Mcf shown on OTS Exhibit No. 2, Schedule 3, column J, line 16 divided by the average 424,099 customers shown under column B, line, I determined that the total annual normalized usage for January 2000 through December 2000 was **103.91 Mcf** (See OTS Exhibit No. 2, Schedule 3, page 1, column E, line 24).

Q. HOW DOES THIS 103.91 MCF COMPARE TO WHAT THE COMPANY CLAIMED?

A. The difference between the two amounts is 2.97 Mcf, (103.91 - 100.94) as shown on OTS Exhibit No. 2, Schedule 3, page 2, column C, line 4.

Q. WHAT DO YOU RECOMMEND REGARDING THIS ADDITIONAL USAGE OF 2.97 MCF FOR THE AVERAGE RESIDENTIAL HEATING CUSTOMER?

A. I recommend that the Company increase the projected use per residential heating customer to 103.91 Mcf per year when determining proposed rates, as shown on OTS Exhibit No. 2, Schedule 3, page 2, column D, line 4.

Q. HOW MUCH ADDITIONAL REVENUE WILL THE COMPANY RECEIVE UNDER THE RESIDENTIAL HEATING CLASS AT PROPOSED RATES IF THE COMMISSION ACCEPTS THIS ADJUSTMENT?

A. The Company will receive $12,892,000 in additional revenue at proposed rates, as shown on OTS Exhibit No. 2, Schedule 3, page 2, column C, line 14.

Q. DID YOU PREPARE A SCHEDULE SIMILAR TO OTS EXHIBIT NO. 2, SCHEDULE 3, PAGE 1 FOR THE COMMERCIAL HEATING CLASS?

A. Yes. OTS Exhibit No. 2, Schedule 4, page 1 is similar to OTS Exhibit No. 2, Schedule 3, page 1 except that Schedule 4 is for the commercial heating class. As shown on Schedule 4, page 1, column J, line 16, the average

number of customers in 2000 was 19,112, is shown under column B, line 19. The total average annual sales for January 2000 through December 2000 was **477.11 Mcf** as shown under column E, line 24).

Q. HOW DOES THIS 477.11 MCF COMPARE TO WHAT THE COMPANY CLAIMED?

A. The difference between the two amounts is 31.90 Mcf, (477.11 - 445.21) as shown on OTS Exhibit No. 2, Schedule 4, page 2, column C, line 4.

Q. WHAT DO YOU RECOMMEND REGARDING THIS ADDITIONAL USAGE OF 31.90 MCF FOR THE AVERAGE COMMERCIAL HEATING CUSTOMER?

A. I recommend that the Company increase the projected use per commercial heating customer to 477.11 Mcf per year when determining proposed rates, as shown on OTS Exhibit No. 2, Schedule 4, page 2, column D, line 4.

Q. HOW MUCH ADDITIONAL REVENUE WILL THE COMPANY RECEIVE UNDER THE COMMERCIAL HEATING CLASS AT PROPOSED RATES IF THE COMMISSION ACCEPTS THIS ADJUSTMENT?

A. The Company will receive $6,859,000 in additional revenue at proposed rates, as shown on OTS Exhibit No. 2, Schedule 4, page 2, column C, line 14.

C. Number of Residential Heating and Commercial Heating Customers

Q. FOR WHICH CUSTOMER CLASSES ARE YOU PROPOSING TO MAKE CHANGES TO THE PROJECTED NUMBER OF CUSTOMERS?

A. I am proposing that the projected number of residential heating and commercial heating customers be increased.

Q. WHAT IS THE COMPANY'S PROJECTED NUMBER OF CUSTOMERS IN EACH OF THESE CLASSES?

A. The Company is projecting 412,910 residential heating customers and 19,061 commercial heating customers (See PWG Exhibit HSG-1, Schedule 4-A, page 1).

Q. HOW DID THE COMPANY PROJECT THE NUMBER OF RESIDENTIAL HEATING AND COMMERCIAL HEATING CUSTOMERS?

A. As described above, the Company's claim is based on projections and adjustments made to the most recent actual data available. A monthly breakdown showing the Company's projected 412,910 residential heating customers and 19,061 commercial heating customers is shown on OTS Exhibit No. 2, Schedule 1.

Q. WHAT DO YOU RECOMMEND REGARDING THE PROJECTED NUMBER OF RESIDENTIAL HEATING AND COMMERCIAL HEATING CUSTOMERS?

A. I recommend that the projected number of residential heating customers be increased by 11,189 and the number of commercial heating customer be increased by 51.

Q. WHY ARE YOU IN DISAGREEMENT WITH THE COMPANY'S PROJECTED NUMBER OF RESIDENTIAL HEATING AND COMMERCIAL HEATING CUSTOMERS?

A. The projected numbers of customers in the residential heating and commercial heating classes for the last four months of 2000 do not match the actual number of customers in these classes for the last four months of 2000.

Q. WHAT IS YOUR RECOMMENDATION REGARDING THIS DIFFERENCE BETWEEN THE ACTUAL AND PROJECTED NUMBER OF CUSTOMERS FOR THE LAST FOUR MONTHS OF 2000?

A. I recommend that the Commission use the actual number of residential heating and commercial heating customers the Company served in calendar year 2000 to determine the projected number of customers and projected sales in this case.

Q. *DID THE COMPANY PROVIDE THE ACTUAL NUMBER OF CUSTOMERS EACH FOR EACH MONTH OF 2000?*

A. Yes. The response to OTS-RS-27 shows the actual number of customers from January 2000 through August 2000 and the response to OTS-RS-28 shows the actual number of customers from September 2000 through December 2000 (See OTS Exhibit No. 2, Schedule 2). A comparison of the actual and projected number of residential customers for the last four months of 2000 is summarized on OTS Exhibit No. 2, Schedule 2, page 5, line 17.

Q. DID YOU SUMMARIZE THE ACTUAL NUMBER OF RESIDENTIAL HEATING AND COMMERCIAL HEATING

CUSTOMERS TO DETERMINE THE AVERAGE NUMBER OF CUSTOMERS IN EACH CLASS FOR THE YEAR 2000?

A. Yes. The actual number of residential heating customers for each month of 2000 is shown under column B of OTS Exhibit No. 2, Schedule 3, page 1. The total number of residential heating customers in 2000 was 424,099, as shown on line 19. The actual number of commercial heating customers for each month of 2000 is shown under column B of OTS Exhibit No. 2, Schedule 4, page 1. The average number of commercial heating customers in 2000 was 19,112, as shown on line 19.

Q. WHAT IS THE DIFFERENCE BETWEEN THE ACTUAL NUMBER OF RESIDENTIAL HEATING CUSTOMERS IN 2000 AND THE PROJECTED NUMBER OF RESIDENTIAL HEATING CUSTOMERS SHOWN IN THIS CASE?

A. The difference between the actual number of customers shown on the data responses and the projected number of customers shown on PGW Exhibit HSG-1, Schedule 4A, page 1 is 11,189 (424,099 – 412,910) (See OTS Exhibit No. 2, Schedule 3, page 3, column C, line 3).

Q. WHAT IS THE DIFFERENCE BETWEEN THE ACTUAL NUMBER OF COMMERCIAL HEATING CUSTOMERS IN 2000 AND THE PROJECTED NUMBER OF COMMERCIAL HEATING CUSTOMERS SHOWN IN THIS CASE?

A. The difference between the actual number of customers shown on the data responses and the projected number of customers shown on PGW Exhibit HSG-1, Schedule 4A, page 1 is 51, (19,061 – 19,112) (See OTS Exhibit No. 2, Schedule 4, page 3, column C, line 3).

Q. DID YOU QUANTIFY THE INCREASE IN PROPOSED REVENUE WHEN THESE ADDITIONAL RESIDENTIAL HEATING CUSTOMERS ARE INCLUDED?

A. Yes. The Company will receive customer charge revenue from these additional 11,189 residential heating customers paying the proposed $15.00 monthly customer charge. This would increase proposed revenue by $2,014,000 (11,189 X 15.00 X 12), as shown on OTS Exhibit No 2. Schedule 4, page 3, column C, line 18. The Company will also receive sales revenue from these 11,189 additional residential heating customers paying the commodity and GCR. Assuming that these customers will use an average of 100.940 MCF per year, as projected by the Company, the additional Mcf

sales for these 11,189 additional residential heating customers would be 1,129,546 Mcf (See OTS Exhibit No. 2, Schedule 3, page 3, column C, line 6). The additional sales revenue associated with this 1,129,546 Mcf is $11,860,000, as shown on line 15. The total additional revenue for the residential heating class including customer charge and sales is **$13,874,000**, as shown on line 21. If the Commission also accepts my recommendation described above to increase the average sales to 103.913 Mcf per year, the additional volumes associated with all customers including the additional 11,189 residential heating customers would be 2,390,560 Mcf, as shown on OTS Exhibit No. 2, Schedule 3, page 4, column C, line 6. The total additional revenue for the residential heating class for these two adjustments is **$27,114,000**, as shown on line 21.

Q. DID YOU QUANTIFY THE INCREASE IN PROPOSED REVENUE WHEN THESE ADDITIONAL COMMERCIAL HEATING CUSTOMERS ARE INCLUDED?

A. Yes. The Company will receive customer charge revenue from these 51 additional commercial heating customers paying the proposed $25.00 monthly customer charge. This would increase proposed revenue by $15,000 (51 X 25.00 X 12) as shown on OTS Exhibit No 2. Schedule 4, page 3,

column C, line 18. The Company will also receive sales revenue from these 51 additional commercial heating customers paying the commodity and GCR. Assuming that these customers will use an average of 445.21 MCF per year, as projected by the Company, the additional Mcf sales for these 51 additional residential heating customers would be 22,711 Mcf (See OTS Exhibit No. 2, Schedule 4, page 3, column C, line 6). The additional revenue associated with this 22,711 Mcf is $256,000, as shown on line 15. The total additional revenue for the commercial heating class including customer charge and sales is **$271,000**, as shown on line 21. If the Commission also accepts my recommendation described above to increase the average sales to 477.11 Mcf per year, the additional volumes associated with all customers including the additional 51 commercial heating customers would be 632,379 Mcf, as shown on OTS Exhibit No. 2, Schedule 4, page 4, column C, line 6. The total additional revenue for the commercial heating class for these two adjustments is **$7,149,000**, as shown on line 21.

D. Cost of Gas Expense

Q. DO YOUR PROPOSED ADJUSTMENTS TO THE AVERAGE USE PER CUSTOMER AND THE AVERAGE NUMBER OF CUSTOMERS IMPACT THE COST OF GAS EXPENSE?

A. Yes. Obviously, if the projected sales are increased, the Company needs to purchase additional gas to provide these additional sales.

Q. HAVE YOU QUANTIFIED THE EFFECT OF YOUR PROPOSED AVERAGE USAGE ADJUSTMENT ON THE COST OF GAS?

A. Yes. As I previously stated in my testimony, I am increasing the sales to reflect a higher average use for the residential and commercial heating class customers. When this additional 1,227,873 Mcf for the residential heating class is multiplied by the average cost of gas of $6.7745, the increase in the cost of gas expense is $8,318,000, as shown on OTS Exhibit No. 2, Schedule 3, page 2, column C, line 17. When this additional 608,047 Mcf for the commercial heating class is multiplied by the average cost of gas of $6.7745, the increase in the cost of gas expense is $4,119,000, as shown on OTS Exhibit No. 2, Schedule 4, page 2, column C, line 17.

Q. HAVE YOU QUANTIFIED THE EFFECT OF YOU CUSTOMER COUNT ADJUSTMENT ON THE COST OF GAS?

A. Yes. As I previously stated in my testimony, I am increasing the sales to reflect a higher number of residential and commercial heating class customers. When the additional 1,129,546 Mcf for the residential heating

class that would occur with these additional customers is multiplied by the average cost of gas of $6.7745, the increase in the cost of gas expense is $7,652,000, as shown on OTS Exhibit No. 2, Schedule 3, page 3, column C, line 24. When this additional 22,711 Mcf for the commercial heating class that would occur with these additional customers is multiplied by the average cost of gas of $6.7745, the increase in the cost of gas expense is $154,000, as shown on OTS Exhibit No. 2, Schedule 4, page 3, column C, line 24.

Q. IF THE COMMISSION ACCEPTS BOTH OF YOUR AVERAGE USE PER CUSTOMER AND CUSTOMER COUNT ADJUSTMENTS, WHAT WOULD BE THE TOTAL COST OF GAS ADJUSTMENT?

A. The total cost of gas adjustment would be $16,195,000 for the residential heating class, as shown on OTS Exhibit No. 2, Schedule 3, page 4, column C, line 24. The total cost of gas adjustment would be $4,284,000 for the commercial heating class, as shown on OTS Exhibit No. 2, Schedule 4, page 4, column C, line 24.

Q. HOW DID YOU DETERMINE THAT $6.7745 PER MCF IS THE AVERAGE COST OF GAS?

A. The Company has projected a total cost of gas of $396,300,000, as shown on the response to OTS-RE-5 (See OTS Exhibit no.2, page 13). This amount is based on projected sales of 58,498,387 Mcf shown on PGW Exhibit HSG-1, Schedule 4A. I divided the $396,300,000 into the 58,498,387 Mcf to determine a $6.7745 total cost of gas.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

JOSEPH KUBAS

PENNSYLVANIA PUBLIC UTILITY COMMISSION
PO BOX 3265
HARRISBURG, PA 17105-3265

Education: ***Bachelor of Science in Civil Engineering Technology, 1985 University of Pittsburgh at Johnstown, Johnstown, PA.***

Continuing Education: ***Legal Principles and Practices of Surveying at the University of Maryland. Economics, Accounting, Lotus, at the Howard Community College. Accounting at the University of Pittsburgh at Johnstown. Managing Multiple Priorities at the Pennsylvania State University. Various PA-PUC and Utility Company Seminars.***

Professional Exams: ***Engineer in Training, 1985,***
Uniform Certified Public Accounting Exam, 1993.

Experience: ***FIXED UTILITY VALUATION ENGINEER III December 1999 - Present***

Pennsylvania Public Utility Commission
Office of Trial Staff

Duties: ***Perform the duties of a Fixed Utility Valuation Engineer III in the Office of Trial Staff (OTS).***

Analyze and review valuation engineering, and rate structure data submitted by Water, Sewer, Telephone, Gas and Steam Heat utilities to justify utility service rates or alternative forms of regulation, by researching, analyzing, and reviewing rate case filings and investigations. Participate in on-site inspections of utility properties to determine the used and usefulness of the plant-in service and make recommendations. Prepare interrogatories in the areas of rate base, rate structure, and quality of service in order to obtain additional information regarding a utility's filing. Analyze current and proposed rate structures, and make recommendations regarding the appropriate methodology for each particular utility to employ. Prepare and assist in the preparation of testimony and exhibits for the purpose of establishing the OTS positions in formal and informal proceedings before the Commission. Participate ,in Commission consultative report proceedings and collaboratives undertaken by the Commission.

Experience: ***FIXED UTILITY VALUATION ENGINEER II October 1997 - December 1999***

Pennsylvania Public Utility Commission
Office of Trial Staff

Duties: ***Perform the duties of a Fixed Utility Valuation Engineer II in the Office of Trail Staff (OTS).***

Experience: *FIXED UTILITY VALUATION ENGINEER II April 1996 - October 1997*

Pennsylvania Public Utility Commission
Bureau of Fixed Utility Services

Duties: *Perform the duties of a Fixed Utility Valuation Engineer II in the Bureau of Fixed Utility Services (FUS).*

Experience: *FIXED UTILITY VALUATION ENGINEER TRAINEE, I & II May 1993 - March 1996*

Pennsylvania Public Utility Commission
Office of Trial Staff
Telecommunications and Water Division

Duties: *Perform the duties of a Fixed Utility Valuation Engineer II in the Rate Structure/Engineering Section of the Telecommunications and Water Division of the Office of Trial Staff (OTS).*

Experience: *CIVIL ENGINEER May 1985 - January 1991*

Clark Finefrock & Sackett Inc.
7135 Minstrel Way
Columbia, MD 21045

Duties: *Engineering, Surveying, Computer, and Field Inspection work related to land development projects in Maryland.*

Testimony Before the Pennsylvania Public Utility Commission

1.	*National Utilities Inc. (Water)*	*R-00953416*	*April 1996*
2.	*Consumer Pennsylvania Water Company - Roaring Creek Division*	*R-00973869*	*May 1997*
3.	*Philadelphia Suburban Water Company*	*R-00973952*	*Aug 1997*
4.	*Bell Atlantic - Pennsylvania Inc.*	*P-00971307*	*Mar 1998*
5.	*City of Bethlehem- Bureau of Water*	*R-00984375*	*Sep 1998*
6.	*Pennsylvania Telephone Association - Chapter 30 Plan*	*P-00981425*	*Dec 1998*
7.	*GTE North Inc. Telephone - Chapter 30 Plan*	*P-00981449*	*Feb 1999*
8.	*Pennsylvania American Water Company*	*R-00994638*	*Aug 1999*
9.	*Philadelphia Suburban Water Company*	*R-00994868*	*Feb 2000*
10.	*PG Energy (Gas)*	*R-00005119*	*Jun 2000*
11.	*Pennsylvania American Water Company*	*A-212285-F071*	*Jul 2000*
12.	*T. W Phillips Gas and Oil Company*	*R-00005459*	*Oct 2000*
13.	*Verizon North*	*P-00001854*	*Jan 2001*

OTS Exhibit No. 2
Witness: Joseph Kubas
Date: April 10, 2001

5/23/01 Phila, PA
RJS

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

Philadelphia Gas Works

Docket No. R-00006042

Exhibits to Accompany
The *Direct Testimony*

of

Joseph Kubas

Office of Trial Staff

Concerning:

Revenue

(Non - Proprietary Information)

OTS Exhibit No. 2
Schedule 1

(Proprietary)

RESPONSE TO OFFICE OF TRIAL STAFF DATA REQUEST
REGARDING PGW'S RATE PROCEEDING

Question OTS-RS-27 Provide the actual number of customers at the end of each month by rate class for the period September 1999 through August 2000.

Response Provided By: Craig White, Senior Vice President Marketing and Supply Services

Response: Please see attached.

OTS-RS-27

Actual Customers	SEP 99	OCT 99	NOV 99	DEC 99	JAN 2000	FEB 2000	MAR 2000	APR 2000	MAY 2000	JUN 2000	JUL 2000	AUG 2000	AVERAGE CUSTOMERS
Non-Heating													
Residential	67,787	67,787	67,523	67,350	67,201	67,153	67,006	66,805	66,501	66,118	65,875	65,653	66,893
CRP	2,124	2,124	2,201	2,322	2,436	2,207	2,243	2,333	2,635	2,725	2,818	2,824	2,416
Commercial	6,170	6,170	6,101	6,098	6,052	6,111	6,093	6,075	6,132	6,195	6,245	6,294	6,145
Industrial	388	388	388	388	388	388	388	388	388	388	388	387	388
Subtotal	76,449	76,449	76,213	76,158	76,077	75,859	75,730	75,601	75,656	75,418	75,326	75,158	75,841
BPS-Small	149	149	149	149	149	149	149	149	149	149	149	149	149
LBSL-D	4	4	4	4	4	4	4	4	4	4	3	3	4
LBS-XL-D	3	3	3	3	3	3	3	3	3	3	3	3	3
TRIGEN	1	1	1	1	1	1	1	1	1	1	1	1	1
BPS-Large	251	250	249	249	249	249	249	249	253	261	263	268	253
LBS-L-I	13	13	13	13	13	13	13	13	13	14	14	14	13
LBS-S	54	54	54	54	54	54	54	54	54	54	55	55	54
LBS-XL-I	2	2	2	2	3	3	3	3	3	3	3	3	3
COGEN-I	3	3	3	3	3	3	3	3	3	3	3	3	3
GRAYSFERRY	1	1	1	1	1	1	1	1	1	1	1	1	1
GTS TRANS	9	9	8	8	8	8	8	8	8	8	8	8	8
GTS SALES	2	2	2	2	1	1	1	1	1	1	1	1	1
BPS-AC	10	10	10	9	9	8	8	8	9	9	9	10	9
NGV	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Interruptible	504	503	501	500	500	499	499	499	504	513	515	521	505
Municipal	326	326	352	352	352	352	352	352	345	348	336	325	343
PHA	9	9	9	9	8	8	8	8	8	8	8	8	8
Total Non-Heating Firm	76,784	76,784	76,574	76,519	76,437	76,219	76,090	75,961	76,009	75,774	75,670	75,491	76,193
Total Non-Heating	77,288	77,287	77,075	77,019	76,937	76,718	76,589	76,460	76,513	76,287	76,185	76,012	76,698
Heating													
Residential	363,253	363,253	367,521	367,595	368,252	369,115	369,852	371,445	372,564	373,652	374,853	375,242	369,716
CRP	46,876	46,876	47,521	47,952	48,521	48,956	49,212	51,010	52,568	54,252	55,222	55,519	50,374
Commercial	18,033	18,033	18,251	18,652	18,763	18,951	18,995	19,052	19,101	19,165	19,205	19,214	18,785
Industrial	743	743	743	743	743	743	743	735	735	727	727	727	738
Municipal	554	554	560	566	572	578	584	592	596	602	605	608	581
PHA	4,575	4,575	4,532	4,501	4,485	4,453	4,445	4,412	4,985	4,381	4,355	4,332	4,503
Total Heating	434,034	434,034	439,128	440,009	441,336	442,796	443,831	447,246	450,549	452,779	454,967	455,642	444,696
Total Firm	510,818	510,818	515,702	516,528	517,773	519,015	519,921	523,207	526,558	528,553	530,637	531,133	520,889
GRAND TOTAL	511,322	511,321	516,203	517,028	518,273	519,514	520,420	523,708	527,062	529,066	531,152	531,654	521,393

OTS-RS-27

OTS Exhibit No. 2
Schedule 2
Page 2 of 5

RESPONSE TO OFFICE OF TRIAL STAFF DATA REQUEST
REGARDING PGW'S RATE PROCEEDING

Question OTS-RS-28	Provide the actual number of customers at the end of each month by rate class for the period September 2000 through December 2000.
Response Provided By:	Craig White, Senior Vice President Marketing and Supply Services
Response:	Please see attached.

OTS-RS-28
Actual Customers

	SEP 2000	OCT 2000	NOV 2000	DEC 2000
Non-Heating				
Residential	65,653	65,235	64,909	64,842
CRP	2,824	2,821	2,771	2,604
Commercial	6,294	6,268	6,231	6,266
Industrial	387	383	364	369
Subtotal	75,158	74,707	74,275	74,081
BPS-Small	149	151	152	152
LBSL-D	3	3	4	4
LBS-XL-D	3	3	3	3
TRIGEN	1	1	1	1
BPS-Large	268	256	247	249
LBS-L-I	14	15	16	16
LBS-S	55	54	52	52
LBS-XL-I	3	3	3	3
COGEN-I	3	3	3	3
GRAYSFERRY	1	1	1	1
GTS TRANS	8	8	8	8
GTS SALES	1	1	1	1
BPS-AC	10	9	9	9
NGV	2	2	2	2
Total Interruptible	521	510	502	504
Municipal	325	380	353	370
PHA	1	1	1	1
Total Non-Heating Firm	75,484	75,088	74,629	74,452
Total Non-Heating	76,005	75,598	75,131	74,956
Heating				
Residential	375,242	369,441	369,747	369,570
CRP	55,519	54,072	53,068	52,294
Commercial	19,214	19,229	19,236	19,221
Industrial	727	754	736	734
Municipal	608	636	613	604
PHA	4,332	4,614	4,431	4,424
Total Heating	455,642	448,746	447,831	446,847
Total Firm	531,126	523,834	522,460	521,299
GRAND TOTAL	531,647	524,344	522,962	521,803

Philadelphia Gas Works
R - 00006042

Comparison of Total Residential Heating Customers

Test Year Ending August 31, 2001

	(A)	(B)	(C)	(D)	(E)
		September	October	November	December
1	OTS-RS-28 and				
2	OTS Exhibit No. 2, Schedule 2, page 3				
3	Heating - Residential	375,242	369,441	369,747	369,570
4	CRP	55,519	54,072	53,068	52,294
5					
6	Total on OTS-RS-28	430,761	423,513	422,815	421,864
7					
8					
9	OTS-RE-5				
10	OTS Exhibit No. 2, Schedule 1, page 6				
11	Heating - Residential	355,612	353,622	355,953	361,406
12	CRP	51,154	52,052	52,527	53,480
13					
14	Total on OTS RE-5	406,766	405,674	408,480	414,886
15					
16					
17	Difference	23,995	17,839	14,335	6,978

Philadelphia Gas Works

Weather Normalization Calculation

Residential Heating Sales

1/1/00 - 12/31/00

Months	No. of Customers	Actual Sales (Mcf)	Base Load Customers (Mcf)	Temperature Sensitive Load of Customers (Mcf)	Actual Deg. Days	Temperature Sensitive Load Mcf/DD	PGW Exhibit CW-1 Normal Deg. Days	Normalized Temperature Sensitive Load Mcf/DD	Normalized Load (Mcf)
(A)	(B)	(C)	(D=B*BLoad)	(E=G-H)	(F)	(G=E/F)	H	(I=GxH)	(J=D+I or C)
Jan-00	416,773	7,173,279	937,739	6,235,540	974	6,402	983	6,293,166	7,230,905
Feb	418,071	8,208,061	940,660	7,267,401	738	9,847	825	8,123,775	9,064,435
Mar	419,064	4,812,965	942,894	3,870,071	456	8,487	657	5,575,959	6,518,853
April	422,455	3,255,134	950,524	2,304,610	329	7,005	346	2,423,730	3,374,254
May	425,132	2,070,280	956,547	1,113,733	75	14,850	108	1,603,800	2,560,347
June	427,904	2,605,691	962,784	1,642,907	19	86,469	12	1,037,628	2,000,412
July	430,075	989,539	967,669	21,870	1	21,870	1	-	989,539
Aug	430,761	980,482	969,212	11,270	1	11,270	1	-	980,482
Sept	430,761	921,912	969,212	(47,300)	57	(830)	37	-	921,912
Oct	423,513	1,778,521	952,904	825,617	197	4,191	249	1,043,559	1,996,463
Nov	422,815	2,994,691	951,334	2,043,357	537	3,805	521	1,982,405	2,933,739
Dec 00	421,864	6,503,228	949,194	5,554,034	1,011	5,494	828	4,549,032	5,498,226
Total	5,089,188	42,293,783	11,450,673	30,843,110	4,395	178,860	4,568	32,633,054	44,069,567
Ave. No. of Customers	424,099			16,832,905					
							-173		

Degree Day Variance: (Warmer) / Colder

Average Use per customer 8.66 Mcf per month 103.91 Mcf per year

	Customers	Mcf Sales
July	430,761	989,539
Aug	430,761	980,482
Sept	423,513	921,912
Total	1,285,035	2,891,933

Base Load (Mcf) Per Customer (BL): 2.25

OTS Exhibit No. 2
Schedule 3
Page 1 of 4

Philadelphia Gas Works
R - 00006042

Total Volumetric Sales Adjustment

OTS Proposed Residential Revenue and Cost of Gas
Test Year Ending August 31, 2001

	(A)	(B)	(C)	(D)
1		Per City	OTS Proposed Adjustment	Adjusted Revenue Per OTS
2				
3	Total Number of Customers	412,910	0	412,910
4	Total Normal Usage (Mcf)	100.940	2.974	103.913
5				
6	Annualized sales (Mcf)	41,679,007	1,227,873	42,906,880
7				
8				
9	Residential Volumetric Rate ($6.905 + $3.5945)	$10.4995	$0.0000	$10.4995
10				
11	Cost of Gas ($ per Mcf) ($3.18 + $3.5945)	$6.7745	$0.0000	$6.7745
12				
13	**Total Proposed Rate Revenue**			
14	**(Line 6 X Line 9)**	**$437,608,734**	**$12,892,053**	**$450,500,787**
15				
16	**Cost of Gas**			
17	**(Line 6 X line 12)**	**$282,356,112**	**$8,318,275**	**$290,674,388**

412,910
41 5 11
417,421

Philadelphia Gas Works
R - 00006042

Total Number of Residential Heating Customers Adjustment

OTS Proposed Residential Revenue and Cost of Gas
Test Year Ending August 31, 2001

	(A)	(B)	(C)	(D)
1		Per City	OTS Proposed Adjustment	Adjusted Revenue Per OTS
2				
3	Total Number of Customers	412,910	11,189	424,099
4	Total Normal Usage (Mcf)	100.940	0.000	100.940
5				
6	Annualized sales (Mcf)	41,679,007	1,129,546	42,808,553
7				
8	Customer Charge	$15.00	$0.00	$15.00
9				
10	Residential Volumetric Rate ($6.905 + $3.5945)	$10.4995	$0.0000	$10.4995
11				
12	Cost of Gas ($ per Mcf) ($3.18 + $3.5945)	$6.7745	$0.0000	$6.7745
13				
14	Total Volumetric Revenue			
15	(Line 6 X Line 10)	$437,608,734	$11,859,669	$449,468,403
16				
17	Customer Charge Revenue			
18	(Line 3 X Line 8)	$74,323,800	$2,014,020	$76,337,820
19				
20	**Total Proposed Rate Revenue**			
21	**(Line 15 + line 18)**	**$511,932,534**	**$13,873,689**	**$525,806,223**
22				
23	**Cost of Gas**			
24	**(Line 6 X line 12)**	**$282,356,112**	**$7,652,155**	**$290,008,268**

Philadelphia Gas Works
R - 00006042

Combined Residential Heating Customer and Average Heating Adjustments

OTS Proposed Residential Revenue and Cost of Gas
Test Year Ending August 31, 2001

	(A)	(B)	(C)	(D)
1		Per City	OTS Proposed Adjustment	Adjusted Revenue Per OTS
2				
3	Total Number of Customers	412,910	11,189	424,099
4	Total Normal Usage (Mcf)	100.940	2.974	103.913
5				
6	Annualized sales (Mcf)	41,679,007	2,390,560	44,069,567
7				
8	Customer Charge	$15.00	$0.00	$15.00
9				
10	Residential Volumetric Rate ($6.905 + $3.5945)	$10.4995	$0.0000	$10.4995
11				
12	Cost of Gas ($ per Mcf) ($3.18 + $3.5945)	$6.7745	$0.0000	$6.7745
13				
14	Total Volumetric Revenue			
15	(Line 6 X Line 10)	$437,608,734	$25,099,685	$462,708,419
16				
17	Customer Charge Revenue			
18	(Line 3 X Line 8)	$74,323,800	$2,014,020	$76,337,820
19				
20	**Total Proposed Rate Revenue**			
21	**(Line 15 + line 18)**	**$511,932,534**	**$27,113,705**	**$539,046,239**
22				
23	**Cost of Gas**			
24	**(Line 6 X line 12)**	**$282,356,112**	**$16,194,945**	**$298,551,057**

Philadelphia Gas Works
Weather Normalization Calculation
Commercial Heating Sales
1/1/00 - 12/31/00

Months	No. of Customers	Actual Sales (Mcf)	Base Load Customers (Mcf)	Temperature Sensitive Load of Customers (Mcf)	Actual Deg. Days	Temperature Sensitive Load Mcf/DD	PGW Exhibit CW-1 Normal Deg. Days	Normalized Temperature Sensitive Load Mcf/DD	Normalized Load (Mcf)
(A)	(B)	(C)	(D=B*BLoad)	(E=G-H)	(F)	(G=E/F)	H	(I=GxH)	(J=D+I or C)
Jan-00	18,763	1,228,729	349,179	879,550	974	903	983	887,649	1,236,828
Feb	18,951	1,505,243	352,678	1,152,565	738	1,562	825	1,288,650	1,641,328
Mar	18,995	1,196,041	353,497	842,544	456	1,848	657	1,214,136	1,567,633
April	19,052	529,000	354,558	174,442	329	530	346	183,380	537,938
May	19,101	471,141	355,470	115,671	75	1,542	108	166,536	522,006
June	19,165	436,606	356,661	79,945	19	4,208	12	50,496	407,157
July	19,205	440,565	357,405	83,160	1	83,160	1	-	440,565
Aug	19,214	340,117	357,573	(17,456)	1	(17,456)	1	-	340,117
Sept	19,214	292,033	357,573	(65,540)	57	(1,150)	37	-	292,033
Oct	19,229	360,012	357,852	2,160	197	11	249	2,739	360,591
Nov	19,236	689,432	357,982	331,450	537	617	521	321,457	679,439
Dec 00	19,221	1,255,021	357,703	897,318	1,011	888	828	735,264	1,092,967
Total	229,346	8,743,940	4,268,131	4,475,809	4,395	76,663	4,568	4,850,307	9,118,602
Ave. No. of Customers	19,112			16,832,905					

-173

Degree Day Variance: (Warmer) / Colder

Average Use per customer 39.76 Mcf per month 477.11 Mcf per year

	Customers	Mcf Sales
July	19,214	440,565
Aug	19,214	340,117
Sept	19,229	292,033
Total	57,657	1,072,715

Base Load (Mcf) Per Customer (BL): 18.61

OTS Exhibit No. 2
Schedule 4
Page 1 of 4

Philadelphia Gas Works
R - 00006042

Total Volumetric Sales Adjustments

OTS Proposed Commercial Revenue and Cost of Gas
Test Year Ending August 31, 2001

	(A)	(B)	(C)	(D)
1		Per City	OTS Proposed Adjustment	Adjusted Revenue Per OTS
2				
3	Total Number of Customers	19,061	0	19,061
4	Total Normal Usage (Mcf)	445.210	31.900	477.110
5				
6	Annualized sales (Mcf)	8,486,143	608,047	9,094,190
7				
8				
9	Commercial Volumetric Rate ($7.686 + $3.5945)	$11.2805	$0.0000	$11.2805
10				
11	Cost of Gas ($ per Mcf) ($3.18 + $3.5945)	$6.7745	$0.0000	$6.7745
12				
13	**Total Proposed Rate Revenue**			
14	**(Line 15 + line 18)**	**$95,727,936**	**$6,859,073**	**$102,587,009**
15				
16	**Cost of Gas**			
17	**(Line 6 X line 12)**	**$57,489,718**	**$4,119,238**	**$61,608,956**

Philadelphia Gas Works
R - 00006042

Total Number of Commercial Heating Customers Adjustments

OTS Proposed Commercial Revenue and Cost of Gas
Test Year Ending August 31, 2001

	(A)	(B)	(C)	(D)
1		Per City	OTS Proposed Adjustment	Adjusted Revenue Per OTS
2				
3	Total Number of Customers	19,061	51	19,112
4	Total Normal Usage (Mcf)	445.210	0.000	445.210
5				
6	Annualized sales (Mcf)	8,486,143	22,711	8,508,854
7				
8	Customer Charge	$25.00	$0.00	$25.00
9				
10	Commercial Volumetric Rate ($7.686 + $3.5945)	$11.2805	$0.0000	$11.2805
11				
12	Cost of Gas ($ per Mcf) ($3.18 + $3.5945)	$6.7745	$0.0000	$6.7745
13				
14	Total Volumetric Revenue			
15	(Line 6 X Line 10)	$95,727,936	$256,186	$95,984,122
16				
17	Customer Charge Revenue			
18	(Line 3 X Line 8)	$5,718,300	$15,300	$5,733,600
19				
20	**Total Proposed Rate Revenue**			
21	**(Line 15 + line 18)**	**$101,446,236**	**$271,486**	**$101,717,722**
22				
23	**Cost of Gas**			
24	**(Line 6 X line 12)**	**$57,489,718**	**$153,853**	**$57,643,571**

Philadelphia Gas Works
R - 00006042

Combined Commercial Heating Customer and Average Heating Adjustments

OTS Proposed Commercial Revenue and Cost of Gas
Test Year Ending August 31, 2001

	(A)	(B)	(C)	(D)
1		Per City	OTS Proposed Adjustment	Adjusted Revenue Per OTS
2				
3	Total Number of Customers	19,061	51	19,112
4	Total Normal Usage (Mcf)	445.210	31.900	477.110
5				
6	Annualized sales (Mcf)	8,486,143	632,379	9,118,522
7				
8	Customer Charge	$25.00	$0.00	$25.00
9				
10	Commercial Volumetric Rate ($7.686 + $3.5945)	$11.2805	$0.0000	$11.2805
11				
12	Cost of Gas ($ per Mcf) ($3.18 + $3.5945)	$6.7745	$0.0000	$6.7745
13				
14	Total Volumetric Revenue			
15	(Line 6 X Line 10)	$95,727,936	$7,133,557	$102,861,493
16				
17	Customer Charge Revenue			
18	(Line 3 X Line 8)	$5,718,300	$15,300	$5,733,600
19				
20	**Total Proposed Rate Revenue**			
21	**(Line 15 + line 18)**	**$101,446,236**	**$7,148,857**	**$108,595,093**
22				
23	**Cost of Gas**			
24	**(Line 6 X line 12)**	**$57,489,718**	**$4,284,080**	**$61,773,798**

RESPONSE TO THE OFFICE OF TRIAL STAFF DATA REQUEST REGARDING PGW'S RATE PROCEEDING

Question OTS-RS-31: Provide the actual sales volume for each month by rate class for the period September 1999 through August 2000 that supports the actual amounts shown on PGW Exhibit B-2.

Response Provided By: Craig White – Sr. Vice President, Marketing & Supply Services

Response: Please see the attached schedule.

FISCAL YEAR 1999-2000 VOLUMES (MCF)

	Sep-99	Oct-99	Nov-99	Dec-99	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Total
NON-HEATING													
Residential	47,429	118,749	232,877	171,189	286,914	306,680	199,006	160,253	127,777	120,588	81,942	88,720	1,940,124
Commercial	88,312	88,753	119,415	226,754	208,911	246,369	245,855	157,599	133,209	136,588	163,488	104,508	1,919,761
Industrial	(13,483)	41,369	(13,637)	60,501	91,121	82,942	68,363	36,664	78,106	(28,053)	22,404	29,303	455,619
Municipal	6,745	2,463	29,271	22,204	14,586	63,393	37,432	19,624	16,525	9,375	12,895	26,592	261,104
Housing Authority	0	0	2,010		7,439	4,284	2,559	(347)	30,779	(30,037)	0	308	16,995
Total Firm Heating	129,022	251,334	369,936	480,648	608,971	703,667	553,216	373,793	386,395	208,462	280,729	247,431	4,593,603
BPS - Small	46,172	(34,698)	(93,721)	65,677	50,780	65,386	37,961	13,279	6,085	4,458	4,354	11,157	176,889
BPS - Large	6,621	(852,284)	1,231,142	881,960	485,294	421,005	622,745	303,234	165,590	139,442	188,138	173,631	3,768,519
LBS-L Direct	(20,806)	4,942	7,131	20,709	22,245	54,329	68,695	12,147	1,227	1,446	1,961	2,732	176,758
LBS-L Indirect	0	113,441	15,678	133,033	152,339	123,707	90,366	66,949	92,454	49,725	63,541	192,439	1,113,670
LBS-S Indirect	(8,912)	520,631	(38,760)	179,126	13,042	261,757	154,309	805,911	(578,017)	101,911	108,766	126,840	1,648,607
LBS-XL Direct	0	52,190	(16,696)	57,860	41,350	38,800	34,900	26,910	19,290	20,160	13,780	23,380	311,924
LBS-XL Indirect	0	41,680	54,766	85,758	105,427	180,759	97,167	108,365	79,756	104,806	100,609	103,561	1,062,654
Co-Generation - Indirect	(123)	40,719	12,763	36,207	10,311	485	19,735	7,599	18,709	17,859	20,691	22,836	207,791
GTS - Retail Sales	8,050	6,008	6,405	21,121	25,601	13,291	9,521	8,674	7,584	3,013	11,899	13,032	134,199
NGV	0	0	(490)	0	0	(2,554)	84	0	3,891	0	1,189	1,002	3,122
Total Interruptible	35,003	(107,370)	1,178,219	1,481,450	906,390	1,156,965	1,135,482	1,353,068	(183,431)	442,820	534,928	670,610	8,604,133
Total Billed Non-Heating	164,025	143,964	1,548,154	1,962,098	1,515,361	1,860,633	1,688,697	1,726,860	202,964	651,282	815,657	918,041	13,197,736
HEATING			0										
Residential	(867,605)	1,778,911	4,558,732	3,482,180	7,173,279	6,208,061	4,812,965	3,255,134	2,070,280	2,605,691	989,539	980,482	39,047,648
Commercial	252,536	320,370	557,922	913,304	1,228,729	1,505,243	1,196,041	529,000	471,141	436,606	440,565	340,117	8,191,573
Industrial	15,078	4,907	69,241	143,231	157,171	184,841	191,013	(52,185)	54,555	48,692	10,453	16,592	843,589
Municipal	24,376	24,315	49,972	101,068	113,689	258,702	180,447	215,280	(100,115)	45,780	20,635	43,916	978,063
Housing Authority	468	1,438	93,643	8,269	179,358	197,989	172,983	81,062	172,861	(122,531)	22,453	62,774	870,766
Total Billed Non-Heating	(575,147)	2,129,938	5,329,509	4,648,052	8,852,226	10,354,837	6,553,449	4,028,291	2,668,722	3,014,237	1,483,645	1,443,881	49,931,638
Net Billed Sales	(411,122)	2,273,902	6,877,663	6,610,150	10,367,587	12,215,469	8,242,146	5,755,151	2,871,686	3,665,519	2,299,302	2,361,922	63,129,374
GTS Transportation	973,790	886,222	1,029,199	1,583,864	1,370,925	1,150,298	1,396,752	1,335,296	981,967	1,097,004	1,117,186	1,169,606	14,092,109
TOTAL Billed Sales	562,668	3,160,124	7,906,862	8,194,014	11,738,512	13,365,767	9,638,898	7,090,447	3,853,653	4,762,523	3,416,488	3,531,528	77,221,483

RESPONSE TO THE OFFICE OF TRIAL STAFF DATA REQUEST REGARDING PGW'S RATE PROCEEDING

Question OTS-RS-32: Provide the actual sales volume for each month by rate class for the period September 2000 through December 2000.

Response Provided By: Joseph R. Bogdonavage – Sr. Vice President, Finance

Response: Please see the attached schedules.

GAS SALES & REVENUES "A-1 REPORT"
MONTH END SEPTEMBER, 2000

	Sep-00 Sales - Mcf			Sep-00 Revenues - Dollars		
	Actual 2000	Budget 2000	Actual 1999	Actual 2000	Budget 2000	Actual 1999
Non-heating:						
Residential	82,889	0	47,429	1,166,272	0	916,500
CRP/Residential Discount	13	0	3,618	24,315	0	95,034
Commercial	132,299	0	88,312	1,119,011	0	772,378
Industrial	13,119	0	(13,463)	(150,846)	0	(105,915)
Municipal	1,780	0	6,745	10,375	0	47,121
Housing Authority	63	0	0	516	0	0
Sub-total firm	230,164	0	132,640	2,169,643	0	1,725,118
Interruptible-comi & ind						
BPS -S indirect	4,727	0	46,172	37,650	0	297,359
BPS -O indirect	186,980	0	8,621	1,187,672	0	35,311
BPS - a/c	0	0	0	0	0	0
LBS-XL direct	22,150	0	0	133,266	0	0
LBS-XL indirect	64,166	0	0	381,305	0	0
LBS-L direct	1,517	0	(20,806)	9,794	0	(63,271)
LBS-L indirect	85,853	0	0	566,670	0	0
LBS-S indirect	104,773	0	(6,912)	622,588	0	(16,400)
LNG - direct	0	0	0	0	0	0
CG-indirect	14,660	0	(123)	92,186	0	(901)
GTS - retail sales	7,941	0	0	55,150	0	27,524
Sales for resale		0	0	0	0	0
NGV indirect	0	0	0	0	0	0
Sub-total interruptible	502,766	0	26,953	3,086,280	0	279,521
Billed non-heating	732,930	0	159,593	5,255,923	0	2,004,740
GCR non-heating adj				0	0	0
Total non-heating	732,930	0	159,593	5,255,923	0	2,004,740
Heating:						
Residential	920,908	0	(667,605)	10,211,886	0	(4,263,396)
Limited service	0	0	0	0	0	0
CRP/Residential Discount	1,004	0	(1,012)	1,017,739	0	4,699,464
Commercial	292,033	0	252,536	2,593,169	0	2,196,151
Industrial	46,508	0	15,078	413,625	0	131,675
Municipal	9,831	0	24,376	71,021	0	145,645
Housing Authority	13,080	0	468	107,826	0	3,915
Billed heating	1,285,365	0	(576,159)	14,415,266	0	2,913,454
GCR heating adj				0	0	0
Gas Commission Adj				-	-	-
Total heating	1,285,365	0	(576,159)	14,415,266	0	2,913,454
Total gas sold	2,018,295	0	(416,566)	19,671,188	0	4,918,193
Unbilled adjustment	0	0	0	0	0	0
GTS: transportation	847,268	0	0	221,673	0	238,217
Total gas revenues	-	-	-	19,892,861	0	5,156,410
Utility use	2,330	0	0			
Total gas:						
Accounted for	2,867,893	0	(416,566)			
Unaccounted for	(2,867,893)	0	416,566			
Total sendout	0	0	0			
Unaccounted as a % of:						
Total sendout	#DIV/0!	#DIV/0!	#DIV/0!			
City sendout	12,117.7	#DIV/0!	2,002.1			
CRP DISC.(CHG.) NH.	24,315					
CRP DISC.(CHG.) HTG.	1,017,739					

GAS SALES & REVENUES "A-1 REPORT"
MONTH END OCTOBER, 2000

	Oct-00	Oct-00		Oct-00	Oct-00	
	Sales - Mcf			Revenues - Dollars		
	Actual 2000	Budget 2000	Actual 1999	Actual 2000	Budget 2000	Actual 1999
Non-heating:						
Residential	145,913	0	118,749	1,646,032	0	1,360,232
CRP/Residential Discount	268	0	444	17,461	0	37,030
Commercial	172,582	0	88,753	1,463,226	0	780,116
Industrial	40,777	0	41,369	285,035	0	336,251
Municipal	12,252	0	2,463	91,013	0	16,986
Housing Authority	85	0	0	700	0	0
Sub-total firm	372,878	0	251,778	3,503,467	0	2,530,615
Interruptible-comi & ind						
BPS -S indirect	12,982	0	(34,698)	97,051	0	(213,986)
BPS -O indirect	289,211	0	(852,284)	2,182,110	0	(3,512,181)
BPS - s/c	0	0	0	0	0	0
LBS-XL direct	21,410	0	52,190	141,806	0	211,408
LBS-XL indirect	65,178	0	41,680	429,014	0	162,423
LBS-L direct	1,664	0	4,942	11,339	0	20,471
LBS-L indirect	78,866	0	113,441	526,074	0	459,642
LBS-S indirect	125,998	0	520,631	853,288	0	1,987,285
LNG - direct	0	0	0	0	0	0
CG-indirect	9,509	0	40,719	62,345	0	139,229
GTS - retail sales	7,554	0	0	73,531	0	53,370
Sales for resale		0	0	0	0	0
NGV indirect	2,272	0	0	13,361	0	0
Sub-total interruptible	614,644	0	(113,378)	4,389,919	0	(692,339)
Billed non-heating	987,522	0	138,400	7,893,386	0	1,838,276
GCR non-heating adj				0	0	0
Total non-heating	987,522	0	138,400	7,893,386	0	1,838,276
Heating:						
Residential	1,777,669	0	1,778,911	16,555,708	0	16,709,852
Limited service	0	0	0	0	0	0
CRP/Residential Discount	882	0	(558)	430,837	0	121,815
Commercial	360,012	0	320,370	3,066,990	0	2,784,471
Industrial	33,939	0	4,907	293,842	0	32,432
Municipal	81,357	0	24,315	357,137	0	178,842
Housing Authority	30,868	0	1,436	262,838	0	11,004
Billed heating	2,284,696	0	2,129,380	20,966,352	0	19,838,417
GCR heating adj				0	0	0
Gas Commission Adj				-	-	-
Total heating	2,284,696	0	2,129,380	20,966,352	0	19,838,417
Total gas sold	3,272,218	0	2,267,780	28,859,738	0	21,676,694
Unbilled adjustment	0	0	0	0	0	0
GTS: transportation	422,821	0	0	212,642	0	273,163
Total gas revenues	-	-	-	29,072,380	0	21,949,857
Utility use	3,209	0	0			
Total gas:						
Accounted for	3,698,248	0	2,267,780			
Unaccounted for	(3,698,248)	0	(2,267,780)			
Total sendout	0	0	0			
Unaccounted as a % of:						
Total sendout	#DIV/0!	#DIV/0!	#DIV/0!			
City sendout	16,027.6	#DIV/0!	3,969.4			
CRP DISC.(CHG.) NH.	17,461					
CRP DISC.(CHG.) HTG.	430,837					

GAS SALES & REVENUES "A-1 REPORT"
MONTH END NOVEMBER, 2000

	Nov-00	Nov-00		Nov-00	Nov-00	
		Sales - Mcf			Revenues - Dollars	
	Actual 2000	Budget 2000	Actual 1999	Actual 2000	Budget 2000	Actual 1999
Non-heating:						
Residential	183,336	0	165,838 #	1,924,306	0	1,810,309
CRP/Residential Discount	26	0	(59) #	(29,047)	0	(1,820)
Commercial	259,281	0	84,144 #	2,233,802	0	731,370
Industrial	44,379	0	11,660 #	382,307	0	93,649
Municipal	20,279	0	29,769 #	152,319	0	217,025
Housing Authority	84	0	6,816 #	710	0	55,467
Sub-total firm	507,382	0	297,867	4,664,398	0	2,905,900
Interruptible-com! & ind						
BPS -S indirect	36,728	0	4,420 #	279,130	0	37,879
BPS -O indirect	403,283	0	(429,414) #	2,912,186	0	(1,522,831)
BPS - a/c	0	0	0 #	0	0	0
LBS-XL direct	51,980	0	0 #	308,507	0	0
LBS-XL indirect	55,144	0	0 #	343,367	0	0
LBS-L direct	25,068	0	20,885 #	155,192	0	86,637
LBS-L indirect	129,166	0	0 #	771,112	0	0
LBS-S indirect	161,877	0	(1,000,643) #	1,008,230	0	(3,167,924)
LNG - direct	0	0	0 #	0	0	0
CG-indirect	6,387	0	17 #	39,029	0	859
GTS - retail sales	7,959	0	0 #	0	0	36,317
Sales for resale		0	0 #	0	0	0
NGV indirect	693	0	0 #	4,214	0	0
Sub-total interruptible	881,285	0	(1,404,735)	5,820,967	0	(4,530,363)
Billed non-heating	1,388,667	0	(1,106,867)	10,485,364	0	(1,624,463)
GCR non-heating adj				0	0	0
Total non-heating	1,388,667	0	(1,106,867)	10,485,364	0	(1,624,463)
Heating:						
Residential	2,994,091	0	2,866,327 #	25,620,626	0	24,509,161
Limited service	0	0	0 #	0	0	0
CRP/Residential Discount	600	0	(568) #	(1,004,993)	0	(655,931)
Commercial	689,432	0	286,235 #	6,924,388	0	2,457,714
Industrial	80,157	0	14,808 #	691,998	0	129,230
Municipal	70,216	0	62,249 #	627,406	0	429,917
Housing Authority	91,806	0	147,505 #	775,732	0	1,155,655
Billed heating	3,926,301	0	3,376,556	32,535,157	0	28,055,736
GCR heating adj				0	0	0
Gas Commission Adj				-	-	-
Total heating	3,926,301	0	3,376,556	32,535,157	0	28,055,736
Total gas sold	5,314,968	0	2,269,689	43,020,521	0	26,431,273
Unbilled adjustment	0	0	0	0	0	0
GTS: transportation	785,879	0	0	0	0	240,778
Total gas revenues'	-	-	-	43,020,521	0	26,672,051
Utility use	9,507	0	0			
Total gas:						
Accounted for	6,110,355	0	2,269,689			
Unaccounted for	(5,110,355)	0	(2,269,689)			
Total sendout	0	0	0			
Unaccounted as a % of:						
Total sendout	#DIV/0!	#DIV/0!	#DIV/0!			
City sendout	7,930.6	#DIV/0!	10,867.8			
CRP DISC.(CHG.) NH.	(29,047)					
CRP DISC.(CHG.) HTG.	(1,004,993)					

GAS SALES & REVENUES "A-1 REPORT"
MONTH END DECEMBER, 2000

	Dec-00	Dec-00		Dec-00	Dec-00	
		Sales - Mcf			Revenues - Dollars	
	Actual 2000	Budget 2000	Actual 1999	Actual 2000	Budget 2000	Actual 1999
Non-heating:						
Residential	274,074	0	171,189	2,989,766	0	1,856,092
CRP/Residential Discount	(39)	0	15	(110,860)	0	(7,110)
Commercial	241,797	0	225,754	2,227,909	0	1,964,635
Industrial	83,844	0	60,501	836,604	0	910,291
Municipal	36,087	0	22,204	328,219	0	208,257
Housing Authority	75	0	0	759	0	0
Sub-total firm	635,837	0	480,663	6,272,396	0	4,932,165
Interruptible-coml & ind						
BPS -S indirect	40,664	0	65,677	386,035	0	490,814
BPS -O indirect	394,322	0	881,960	3,177,973	0	4,493,303
BPS - a/c	0	0	0	0	0	0
LBS-XL direct	21,310	0	57,860	175,538	0	224,094
LBS-XL indirect	37,006	0	85,758	327,447	0	343,585
LBS-L direct	89,800	0	20,709	652,634	0	81,516
LBS-L indirect	35,876	0	133,033	338,821	0	548,456
LBS-S indirect	118,428	0	179,126	977,054	0	856,723
LNG - direct	0	0	0	0	0	0
CG-indirect	10,114	0	36,207	86,929	0	137,135
GTS - retail sales	7,011	0	18,494	55,597	0	155,205
Sales for resale		0	0	0	0	0
NGV indirect	700	0	0	5,610	0	0
Sub-total interruptible	755,228	0	1,476,823	6,153,638	0	7,330,931
Billed non-heating	1,391,065	0	1,957,486	12,425,934	0	12,263,097
GCR non-heating adj				0	0	0
Total non-heating	1,391,065	0	1,957,486	12,425,934	0	12,263,097
Heating:						
Residential	6,503,479	0	3,482,180	60,482,350	0	30,078,872
Limited service	0	0	0	0	0	0
CRP/Residential Discount	(251)	0	(1,720)	(3,385,576)	0	(1,293,947)
Commercial	1,255,021	0	913,304	12,631,879	0	7,773,173
Industrial	149,901	0	143,231	1,611,306	0	1,232,026
Municipal	215,339	0	101,068	1,923,421	0	831,027
Housing Authority	125,487	0	8,269	1,271,173	0	70,068
Billed heating	8,248,975	0	4,646,332	74,334,553	0	38,691,219
GCR heating adj				0	0	0
Gas Commission Adj				-	-	-
Total heating	8,248,975	0	4,646,332	74,334,553	0	38,691,219
Total gas sold	9,640,040	0	6,603,819	86,760,488	0	50,954,316
Unbilled adjustment	0	0	0	0	0	0
GTS: transportation	721,404	0	1,583,864	213,073	0	342,370
Total gas revenues	-	-	-	86,973,561	0	51,296,686
Utility use	5,111	0	0			
Total gas:						
Accounted for	10,366,555	0	8,187,683			
Unaccounted for	(10,366,555)	0	(8,187,683)			
Total sendout	0	0	0			
Unaccounted as a % of:						
Total sendout	#DIV/0!	#DIV/0!	#DIV/0!			
City sendout	9,330.0	#DIV/0!	10,421.0			
CRP DISC.(CHG.) NH.	(110,860)					
CRP DISC.(CHG.) HTG.	(3,385,576)					

OTS Statement No. 2SR
Witness: Joseph Kubas
Date: May 16, 2001

5/23/01 Phila, PA

RBS

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

Philadelphia Gas Works.

Docket No. R-00006042

Surrebuttal Testimony

of

Joseph Kubas

Office of Trial Staff

Concerning:
Revenue

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Joseph Kubas. My business address is Pennsylvania Public Utility Commission, P.O. Box 3265 Harrisburg, PA 17105-3265.

Q. ARE YOU THE SAME JOSEPH KUBAS WHO SUBMITTED OTS STATEMENT NO. 2 ON APRIL 10, 2001?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my surrebuttal testimony is to respond to issues presented in the rebuttal testimony of Craig White submitted as PGW Statement 4.1 on behalf of Philadelphia Gas Works (PGW or Company).

A. <u>Firm Sendout Versus Actual Sendout</u>

Q. WHAT HAS PGW WITNESS CRAIG WHITE STATED REGARDING YOUR RECOMMENDATION THAT THE AVERAGE USE PER RESIDENTIAL AND COMMERCIAL HEATING CUSTOMER BE INCREASED?

A. PGW witness White states my average use per customer analysis was not correct and that PGW's forecasted gas model is a highly accurate predictor of

PGW's sales levels (See PGW Statement 4.1, page 1, line 23 through 29). Mr. White supports this statement by providing a schedule that compares firm sendout to projected sales using the Company's forecasting model (See PGW Statement 4.1, page 2, line 15).

Q. WHAT ANALYSIS DID MR. WHITE PERFORM TO COMPARE THE AMOUNT OF GAS SENT OUT TO THE AMOUNT OF GAS THE COMPANY SHOULD HAVE SOLD?

A. Mr. White re-ran the Company computer analysis that predicted sales. While keeping all the other inputs the same, he replaced the of number average heating degree days with the actual number of heating degree days. He concluded that for the most recent five month period from November 2000 through March of 2001, the forecasting model is only off by 2% (See PGW Statement 4.1, page 3, line 6).

Q. IS THIS A VALID COMPARISON?

A. No. There are several reasons why Mr. White's analysis is not valid. First, it only covers five months of a year. It is possible that these numbers are close by pure chance, since the time period presented by Mr. White is only five months. Second, Mr. White kept all the other inputs the same when comparing firm sendout to calculated sales. It is possible that some of these

other inputs have changed and should also have been updated. Third, actual sales do vary depending on other factors including the month the degree day is in, the day of the week, sunlight and wind. In addition, Mr. White's table shows that the Company sent out less gas in February 2001 than the computer model predicted that customers should have used. This supports the fact that adjusted sales for heating degree days is just an estimate and actual sales are dependent on other factors. While there is a direct correlation between heating degree days and usage, actual sales do vary.

Q. COULD THE RECORD HIGH NATURAL GAS PRICES DURING THE PERIOD SELECTED BY MR. WHITE ALSO AFFECT USAGE?

A. Certainly. Record high natural gas prices this past winter would cause some customers to use less gas. These higher prices were reflected in customer bills when PGW increased its Purchase Gas Rate (PGR) rate in November 2000, January 2001 and March 2001 (See PGW Statement 4.1, page 11, line 1). Therefore, I believe that this period and the corresponding data is not indicative of normal winter usage.

Q. WHAT INCREASE IN GAS SALES RELATING TO HEATING DEGREE DAYS DID YOU RECOMMEND IN OTS STATEMENT NO. 1?

A. For heating customers, I recommended a total increase in sales of 2,998,607 Mcf (1,227,873 Mcf for the residential class, as shown on OTS Exhibit No 2, Schedule 3, page 2, column C, line 6 and 608,047 Mcf for the Commercial class, as shown on OTS Exhibit No 2, Schedule 4, page 2, column C, line 6). This 1,835,920 Mcf adjustment is only 2.67% more than the 68,858,185 Mcf the Company originally forecasted.

Q. HOW DOES MR WHITE'S ANALYSIS COMPARE TO YOUR TOTAL ADJUSTMENT?

A. At least for the five months selected by Mr. White, the error rate is 1.95%, which is fairly close to my 2.67% adjustment. Given the fact the usage does vary, and Company's history of billing discrepancies, my 2.67% adjustment is reasonable and should be accepted.

B. <u>Customer Counts Totals</u>

Q. WHAT DOES MR. WHITE STATE REGARDING YOUR RECOMMENDATION TO INCREASE THE NUMBER OF CUSTOMERS?

A. Mr. White states that my modification has some merit and that revenue should be increased by slightly less than $2 million to reflect the additional

revenue the Company will receive from these customers paying the monthly customer charges (See PGW Statement 4.1, page 8, line 8 through 19).

Q. HOW DID MR. WHITE DETERMINE THE NUMBER OF CUSTOMERS THAT SHOULD BE ADDED?

A. Mr. White reviewed the Company's billing records for February 2001 and compared these numbers to the number of customers projected in the original filing for March of 2001. Using this analysis, Mr. White determined that number of residential customers should be increased by 9,709 and the number of Commercial customers should be increased by 700 customers (See PGW Statement No. 4.1, page 6, lines 21 through page 7 line 11).

Q. DO YOU ACCEPT MR. WHITE'S ADJUSTMENT?

A. No. While Mr. White has updated the number of customers, it is only based on a one month analysis. It is not representative of an entire year. My adjustments are based on the average for an entire year and are more representative of a normal level of customers.

Q. IS THERE EVIDENCE IN THIS CASE THAT THE ACTUAL NUMBER OF RESIDENTIAL HEATING CUSTOMERS VARIES FROM MONTH TO MONTH?

A. Yes. For example, the actual number of customers in March of 2000 was 5,035 less than the average for the year, indicating that using one month total is not indicative of a normal year (See OTS Exhibit No. 2, Schedule 3, page 1, column B). This is why I recommend using a 12 month average, rather than making an adjustment based on only one month.

Q. WHAT DO YOU RECOMMEND IF THE COMMISSION DOES NOT ACCEPT YOUR 12 MONTH AVERAGE?

A. I recommend that the Commission updated the customer count by the numbers presented by Mr. White.

C. <u>Usage per Additional Customers</u>

Q. WHAT DOES MR. WHITE STATE REGARDING YOUR RECOMMENDATION TO ADD USAGE FOR THE ADDITIONAL CUSTOMERS?

A. Mr. White states that there is no need to add usage for these additional 10,409 customers (See PGW Statement 4.1, page 8, line 1). Mr. White states that since the sales forecast is accurate, increasing customer counts while the current per customer usage remained the same or was increased, would result in an over estimation of sales and revenue (See PGW Statement 4.1, page 7, line 27).

Q. DO YOU ACCEPT MR. WHITE'S STATEMENT THAT THE SENDOUT COMPARISON SHOWS THERE IS NO NEED TO ADD ADDITIONAL USAGE?

A. No. As described above, Mr. White's sendout comparison is for only five months and only reflects actual heating degree days. Also, his adjusted heating usage is just an estimate based on usage which varies from month to month depending on factors other than heating degree days.

Q. DID THE COMPANY PROVIDE ANY EVIDENCE THAT THE AVERAGE USE PER HEATING CUSTOMER IS DECLINING?

A. No. Since there is no evidence in this case that the average use per customer dropped, or is dropping, the only other assumption would be that these additional customers will not be using any gas.

Q. IS IT REASONABLE TO ASSUME THAT THESE ADDITIONAL CUSTOMERS WILL NOT USE ANY GAS?

A. No. Therefore, the usage for these additional customers should be added to the total sales as described in OTS Statement 1, page 19 through 21.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

OTS Statement No. 3
Witness: P. J. Metro
Date: April 10, 2001

5/23/01 Plus DH

RS

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

Philadelphia Gas Works

Docket No. R-00006042

Direct Testimony

of

Paul J. Metro

Office of Trial Staff

Issues Concerning:

Rate Structure and Tariffs

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

A. My name is Paul J. Metro. My business address is P.O. Box 3265, Harrisburg, Pennsylvania, 17105-3265

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Public Utility Commission in the Office of Trial Staff as a Fixed Utility Valuation Engineer.

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I am a 1982 graduate of The Pennsylvania State University, University Park, Pennsylvania, where I earned a Bachelor of Science Degree in Mineral Economics. Immediately subsequent to graduation, I attended The Pennsylvania State University and met the requirements for a Bachelor of Science Degree in Industrial Engineering. I am also a graduate of The Pennsylvania State University with a Masters of Engineering Degree, majoring in Engineering Science with an emphasis on Industrial Engineering/Operations Research. I have been employed by the Pennsylvania Public Utility Commission since May of 1985. Attached to

this testimony, as Appendix A is a statement, which more fully describes my educational background and employment experience.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is address Philadelphia Gas Works' ("PGW" or "Company") proposed rate structure and address tariff language changes.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is organized by the following sections: (1) Cost of Service; (2) Revenue Allocation and Rate Design; (3) Customer Charge; and (4) Tariff Changes.

Issue – Cost of Service

Company Position

Q. MR. METRO, HOW DOES THE COMPANY DESCRIBE THE COST OF SERVICE STUDY THAT IT FILED IN THIS PROCEEDING?

A. The Company describes the cost of service study ("COSS") that it filed in this proceeding as an unbundled, fully allocated cost of service study completed in December 2000. The study uses a basic three-step process of cost analysis: (1) functionalization; (2) classification; and (3) allocation.

The functionalization was separated into the following functions – production, storage, distribution, and onsite. The Company then classified the functionalization costs into demand, commodity and customer cost categories. The allocations of the functionalization, classified costs were then distributed among the customer classes. See PGW Statement No. 5, page 8 for a description of the filed COSS.

Q. WHAT IS THE PURPOSE OF THE COMPANY'S COSS?

A. The purpose of this COSS is to assign the total costs incurred by PGW to each customer class and to compare the costs assigned to each customer class to the revenue produced by the rates proposed by the utility. The costs assigned in PGW's COSS to each customer class have been compared to the revenue produced by the rates in the Company's proposed Gas Rate Tariff, as presented in its Base Rate Case filing of January 2001 (See PGW Statement No. 5, page 2). The costs and other information used in the PGW COSS and in developing the Tariff were for PGW's Fiscal Year 2001 Budget.

Q. DOES THE COMPANY'S COSS SHOW RATES OF RETURN FOR EACH CUSTOMER CLASS AND FOR THE COMPANY IN TOTAL?

A. No. This is not a COSS in the traditional sense.

Q. HOW DOES THE COMPANY DETERMINE WHETHER A RATE CLASS IS PAYING ITS COST OF SERVICE?

A. The Company has not provided a COSS analysis at present rates to compare with the COSS at proposed rates. The Company's COSS compares the revenue generated by the proposed tariff per customer class to the revenue needed to match the cost to serve each customer class. In other words, the Company determines, through a cash flow analysis, the level of surplus they must have to meet their cash flow needs. The Company then develops a revenue requirement to achieve the needed surplus. Next, the Company determines the cost to serve each customer class. Finally, it compares the revenue requirements by customer class which are needed to achieve the surplus, to the costs required to serve each customer class. The Company' s Exhibit HSG-1, Schedule 3, shows this comparison. As can be seen in HSG-1, Schedule 3, an amount is calculated per customer class that depicts the revenue deficiency or revenue excess as a percentage of the proposed rates.

Q. WHAT IS THE NEXT STEP IN THE COMPANY'S COSS?

A. After the Company determines the revenue excesses or revenue deficiencies by customer class, the Company then re-assigns (re-allocates) the cost of the Customer Responsibility Program (CRP), the Senior Citizen Discount (SCD), and the Conservation Works Program (CWP) to reduce both the revenue deficiencies and revenue excesses. I would note that the costs of the CRP, SCD, and the CWP are not allocated to interruptible and transportation customer classes (See PGW Statement No. 5, page 37).

Q. WHAT ARE THE RESULTS OF THE COMPANY'S COST OF SERVICE STUDY?

A. The Company summarizes the results of its cost of service study in Exhibit No. HSG-1, Schedule 3. The following Table #1 shows the Company's customer class excesses and deficiencies before the re-assignment of the social programs and after the re-assignment of the social programs. I would note that positive percentages represent that revenues are less than costs.

Table #1

Class	Pre Re-assignment	Post Re-assignment
Residential Non-Heat	17.8%	19.9%
Residential Heat	5.8%	2.8%
Comm. Non-Heat	-17.9%	-9.8%
Comm. Heat	-16.9%	-8.7%
Industrial Non-Heat	-26.7%	-18.4%
Industrial Heat	-14.3%	-6.1%
Municipal Non-Heat	-19.7%	-10.8%
Municipal Heat	-24.4%	-15.3%
Housing Authority PHA	-31.7%	-22.7%
Housing Auth. GS	5.5%	13.9%
BPS Small	-5.3%	-5.3%
BPS Large	-14.7%	-14.7%
BPS A/C	-0.7%	-0.7%
LBS Small	-3.9%	-3.9%
LBS Large Indirect	0%	0%
LBS Large Direct	2.9%	2.9%
LBS Xlarge	2.1%	2.1%
TriGenDirect	23.3%	23.3%
Co-Gen. Indirect	-4.2%	-4.2%
Grays Ferry	-11.2%	-11.2%
GTS Trans Only	-57.8%	-57.8%
NGV Direct	24.0%	24.0%

As can be seen in Table #1, the Company attempts to increase or decrease the cost of service to match the proposed revenue requirements by customer class for most of the non-interruptible and transportation customers.

OTS Position

Q. MR. METRO, WOULD YOU CLASSIFY THE COMPANY'S COST OF SERVICE STUDY AS A TRUE COST OF SERVICE STUDY AS NORMALLY USED BY RATE DESIGN ANALSYTS TO DETERMINE REVENUE REQUIREMENTS BY CUSTOMER CLASS?

A. No. I would characterize the Company's COSS as a cost allocation study as opposed to a cost of service study. The difference being that the Company's study is not used to determine the revenue requirement of specific customer classes. The Company via their cash flow analysis predetermined the revenue requirement. However, the cost allocation study, except for the revenue requirement function, was performed as a normal cost study. That is, the cost allocation study was functionalized, classified, and allocated as a normal cost of service study.

Q. HOW IS A TRADITIONAL COSS PERFORMED?

A. Normally, class revenue requirements are measured against cost of service studies to determine the reasonableness of the revenue allocation proposals. Generally, the present rates are compared to allocated costs to determine the absolute class rate of return. The individual customer class rates of return are then compared to the system average rate of return to provide relative

class profitability. These ratios are generally termed indexed or unitized rates of return by cost of service analysts. The movement of the indexed rate of return, measured from present to proposed rates, as well as the absolute rate of return at proposed rates, are the primary tests used to evaluate the class of revenue requirement proposals. At this point, a rate structure analyst could shift customer class revenue requirements between the particular customer class rates to achieve rates of return that are closer to the system average rate of return.

Q. MR. METRO, HOW DID YOU USE THE COMPANY'S PROPOSED COST OF SERVICE STUDY?

A. I utilized the cost of service study proposed by the Company as a costing guide to compare whether the Company's proposed rates recover the costs of the customer class. However, the Company's cost of service study is not needed in a cash flow filing except for (1) a comparison between proposed revenues and class cost responsibility and (2) a guide to set customer charges. Remember, the Company proposed the rates for each customer class before it performed the cost of service study. The Company could do this because their cash flow calculations indicated the total level of revenues needed. A cost of service study did not determine the revenue requirement. Since the Company based their revenue requirement on a cash

flow analysis, there is no other alternative in determining whether the rates proposed by the Company are moving towards cost. I would prefer to use a fully allocated class cost of service study as normally filed by natural gas utilities in rate case filings. However, cost of service is not the sole criteria for rate design. Cost is an important guide in ratemaking, but rates are also designed within a framework that includes factors other than costs. Such factors would include economic, market, and regulatory considerations. Cost of service is, however, a basic and significant criterion. A revenue allocation proposal which is not cost justified, or which does not move towards cost, should not be approved in the absence of compelling reasons to do so.

Q. MR. METRO, DO YOU AGREE WITH THE COST OF SERVICE STUDY RESULTS THAT ARE SHOWN IN TABLE #1?

A. Yes. Since the Company is required to file on a cash flow basis and proposed rates were not derived from the Company's COSS, the results of the Company's proposed COSS are reasonable for revenue / cost comparison and customer charge purposes. I recommend, however, that in its next base rate filing before this Commission, PGW perform a fully allocated class COSS at both present and proposed rates.

Issue 2 – Revenue Allocation and Rate Design

Company Position

Q. HOW DID THE COMPANY DERIVE THE PROPOSED RATE INCREASE FOR EACH CUSTOMER CLASS?

A. The Company proposed a $65 million rate increase. The rate increase consists of both an increase in the customer charges and an increase in the volumetric rates for each of the customer classes. The customer charge increases generate $44.5 million of the proposed $65 million increase. The remaining $20.5 million is generated through a volumetric rate increase. To evenly distribute the $65 million increase to all customer classes, the Company avers that the percentage increase for each class would be 15.14%. However, PGW proposes to increase rates to the Residential class by an additional one-half percent to 15.64% and to increase rates to the remaining classes by 13.44%. The Company claims that its proposal, if approved, would reduce the level of over-recovery of costs from these other classes. See OTS Exhibit No. 3, Schedule 1, the Company's response to OTS-RS-9. The Company avers that the proposed increase to the Residential class moves in the direction of eliminating the under-recovery of costs from the Residential class as can be seen in Table #1 above.

Q. WHAT IS THE PROPOSED REVENUE INCREASE BY *CUSTOMER CLASS?*

A. As can be seen in Table #2, the Company has proposed the following revenue increase by customer class:

Table #2

Customer Class	Present Revenue	Proposed Revenue	Revenue Increase	%
ResGS/PHAGS	$331,682,614	$383,560,367	$51,878,053	15.6
CommGS/MUNGS	$77,360,113	$87,756,874	$10,396,761	13.4
Industrials	$10,813,853	$12,267,289	$1,453,436	13.4
PHA/PHA	$1,222,145	$1,386,400	$164,255	13.4
MUN/MS	$8,240,897	$9,348,522	$164,255	13.4
Total	$429,319,322	$494,319,452	$65,000,130	15.1

OTS Position

Q. MR. METRO, DO YOU AGREE WITH THE COMPANY'S REVENUE ALLOCATION?

A. No. As can be seen in Table #1 above, there are several customer classes in which the revenues do not equal the costs allocated to that customer class. The Company is attempting to remedy the problem for the Residential GS/PHAGS classes by increasing present rates. However, the Company chose not to increase present rates for the customer classes LBS Large Direct, TriGen Direct, and NGV Direct even though their revenues do not equal their allocated costs. In addition, the rate class, GTS Trans is paying rates that are far above its costs.

Q. WHAT IS YOUR RECOMMENDATION AT THE COMPANY'S PROPOSED $65 MILLION REVENUE REQUEST?

A. I agree with the Company's overall rate increase philosophy to increase rates to the Residential GS and PHA GS customer classes by approximately 15.64%. I also agree with the Company's rate increase philosophy to increase rates to the other non-transportation, non-interruptible customers by 13.44%. The Company should, however, increase rates to the LBS Large Direct, TriGen Direct, and NGV Direct customer classes in order to recover costs that are allocated to them. In addition, the Company should reduce the rates to the GTS Trans customer class. Their revenues exceed their allocated costs by 57.8%.

Q. MR. METRO, WHAT IS YOUR RATE DESIGN PROPOSAL FOR THOSE CUSTOMER CLASSES IN WHICH THEIR REVENUES DO NOT EQUAL THEIR COSTS?

A. I recommend that the Company increase the rates to the LBS Large Direct, TriGen Direct, and NGV Direct to equal the allocated costs to these customer classes. In addition, I would reduce the GTS Trans customer class by an amount equal to this increase. This would create a revenue neutral rate change and move all four of these customer classes towards their costs.

Q. MR. METRO, HAVE YOU INCORPORATED THE ADJUSTMENTS OF OTS WITNESS, MR. KUBAS, IN YOUR SCHEDULES?

A. Yes. I have re-stated the Company's revenue request based upon Mr. Kubas' adjustments to the customer number and sales levels for the residential and commercial heating customers. This can be seen in OTS Exhibit No. 3, Schedule 2. As can be seen in Schedule 2, Mr. Kubas' adjustments result in the Company receiving approximately $2 million additional revenues at proposed rates. The Company filed for $65 million and by incorporating Mr. Kubas' adjustments at proposed rates the Company would receive approximately a $67 million revenue increase. I note that I have included Mr. Kubas' adjustments throughout my schedules. Table #2A, below summarizes the effect on the Company's revenue request by Mr. Kubas' adjustments.

Table #2A (Adjusted for OTS Witness Kubas' Proposed Customer) Number and Sales

Customer Class	Present Revenue	Proposed Revenue	Revenue Increase	%
ResGS/PHAGS	$348,565,231	$402,081,440	$53,516,209	15.4
CommGS/MUNGS	$88,868,772	$92,632,892	$10,764,120	13.1
Industrials	$10,813,853	$12,267,289	$1,453,436	13.4
PHA/PHA	$1,222,145	$1,386,400	$164,255	13.4
MUN/MS	$8,240,897	$9,348,522	$164,255	13.4
Total	$450,710,897	$517,716,543	$67,005,645	14.9

Q. WHAT IS THE OTS PROPOSED REVENUE ALLOWANCE?

A. OTS has two revenue allowance scenarios. The first scenario describes a revenue allowance comparing the Company's proposed $65 million revenue request versus the OTS recommended level of revenue increase. The second scenario describes a revenue allowance for the Company based upon transferring the social programs and electric costs from the GCR to base rates.

Subject to change or adoption of an adjustment advanced by other parties, the OTS proposed revenue allowance is approximately $33,000,000.

First Scenario

Q. MR. METRO, WHAT IS YOUR REVENUE ALLOCATION AT THE OTS PROPOSED REVENUE INCREASE?

A. My proposed revenue allocation at the $33 million level is shown in Table #3 and in OTS Exhibit No. 3, Schedule 3. Table #3 incorporates OTS witness, Mr. Kubas' adjustments as described in OTS Statement No. 2. These adjustments relate to changes in customer numbers and changes in sales. The OTS recommended revenue level results in an allocation that resets the volumetric rates back to present rates for all customer classes shown in Table #3 except the Residential class. The residential class would then make up the remaining volumetric increase. The end result of the OTS

revenue requirement and rate design is that the Residential class receives approximately $23 million total revenue reduction from the Company's proposed level. I note that the revenue increases shown in Table #3 for all the non-residential customer classes are increases resulting form customer charge increases. See OTS Exhibit No. 3, Schedule 3, for the complete OTS revenue allocation summary.

Table #3

Customer Class	Present Revenue	Proposed Revenue	Revenue Increase	%
ResGS/PHAGS	$331,682,614	$368,575,163	$36,892,848	11.12
CommGS/MUNGS	$77,360,113	$79,749,622	$2,389,509	3.09
Industrials	$10,813,853	$11,236,253	$422,400	3.91
PHA/PHA	$1,222,145	$1,325,393	$103,248	8.45
MUN/MS	$8,240,897	$8,433,569	$192,672	2.34
Total	$429,319,322	$469,320,000	$40,000,677	9.3

Q. WHAT WAS THE BASIS FOR YOUR REVENUE ALLOCATION AT THE OTS PROPOSED REVENUE LEVEL OF $33 MILLION?

A. As can be seen in Table #1 above, the Residential customer class revenues at proposed rates are substantially less than the costs allocated to this class. The residential customer class is being subsidized by the other customer classes therefore the Residential customer class should not receive a volumetric revenue decrease until the other classes obtain the maximum reduction. I would not recommend reducing the customer charge revenue

requirement before the volumetric revenue requirement because of the cash flow problems that exist with this Company.

Q. MR. METRO, IF THE COMMISSION GRANTS THE COMPANY A REVENUE ALLOWANCE GREATER THAN THE OTS PROPOSED REVENUE ALLOWANCE, WHAT IS YOUR RECOMMENDED REVENUE ALLOCATION?

A. Based upon my revenue allocation goals and depending on the level of the increased revenue allowance, if the Commission grants the Company a revenue allowance greater than the OTS recommended level, I would recommend an across the board proportional allocation based on sales increase starting at the OTS recommended volumetric revenue increase and eventually reaching the revenue allocation percentage increases recommended by the Company.

Q. IF THE COMMISSION GRANTS THE COMPANY LESS REVENUE ALLOWANCE THAN THE OTS LEVEL, WHAT IS YOUR RECOMMENDED REVENUE ALLOCATION?

A. Based upon my revenue allocation goals and depending on the level of the decreased revenue allowance, I would recommend the allocation philosophy as I proposed at the OTS level.

Second Scenario

Q. MR. METRO, PLEASE EXPLAIN THE OTS SECOND SCENARIO RELATING TO REVENUE ALLOWANCE?

A. The second scenario relating to revenue allowance is based upon OTS witness Mr. Keim's testimony. Mr. Keim has proposed to withdraw the cost collection of the Customer Responsibility Program (CRP), Senior Citizen Discount (SCD), and the Conservation Works Program (CWP) from the GCR and place this cost collection into base rates through Operation and Maintenance Expenses (O&M). In addition, I recommend, later in this testimony, to remove the Purchased Electric Expense and recovery from the GCR and place this cost and recovery into base rates through O&M expenses.

Q. WHAT IS THE EFFECT OF THE OTS PROPOSAL TO REMOVE THE COLLECTION OF SOCIAL COSTS AND ELECTRIC COSTS FROM THE GCR?

A. The effect of removing the collection of social costs and electric costs from the GCR and placing this cost recovery in base rates is to increase base rate revenues by approximately $61.9 million and reduce the GCR revenues by the same amount.

Q. WHAT IS THE TOTAL BASE RATE REVENUE ALLOWANCE PROPOSED BY OTS IN THE SECOND SCENARIO?

A. The total base rate revenue allowance proposed by OTS in the second scenario is $94.9 million. This is derived by adding the $61.9 million associated with the social and electric cost recovery in the GCR and the $33 million revenue increase proposed by OTS. In addition, OTS proposes to reduce the total GCR costs by $61.9 million. The overall effect on the customers' total bill will be a $33 million increase to base rates.

Q. MR. METRO, HOW SHOULD THE COMPANY RECOVER THE $61.9 MILLION THAT OTS PROPOSES TO BE RECOVERED IN BASE RATES?

A. OTS is proposing that the $61.9 million is a fixed number that is to be included within base rates. I have allocated the $61.9 million based upon customer class sales volumes. OTS Exhibit No. 3, Schedule 4, shows the $94.9 million OTS base rate increase and allocation.

Issue 3 – Customer Charge

Company Position

Q. MR. METRO, WHAT HAS THE COMPANY PROPOSED FOR THE RESIDENTIAL CUSTOMER CHARGE?

A. The Company's current Customer Charge for the Residential customer classification is $8.00 per month per customer. The Company is proposing an increase to the Customer Charge for the Residential customers of $7.00 (87.5% increase from present rates), resulting in a customer charge of $15.00 (See OTS Exhibit No. 3, Schedule 1).

Q. WHAT RATE HAS THE COMPANY PROPOSED FOR THE COMMERCIAL GS AND INDUSTRIAL GS CUSTOMER CHARGES?

A. The Company is proposing a $25 customer charge for the Commercial GS customers and a $50 customer charge for the Industrial GS customers. Currently, the Commercial GS customer charge is $10 and the Industrial Gs customer charge is $20.

Q. WHAT SUPPORT DOES THE COMPANY CLAIM FOR THESE INCREASES?

A. The Company has included within its filing a calculation of customer costs per bill by service classification (See PGW Exhibit HSG-1, Schedule2). In addition, the Company avers that the warmer than normal weather during the last three winters adversely affected the Company's ability to collect sufficient revenues to meet operating, maintenance, and debt service requirements. Therefore, to help mitigate the impact of warmer than normal weather in the future, PGW is proposing the recovery of a greater portion of its fixed costs in a fixed monthly customer charge. The increase in the customer charge will generate approximately $44.5 million of the requested total increase of $65 million (See PGW Statement No. 4, page 6.)

Q. WHAT ARE THE PROPOSED CUSTOMER COSTS FOR EACH SERVICE CLASSIFICATION?

A. The Company's Exhibit HSG-1, Schedule 2, and PGW Statement No. 4, page 8 shows the cost of service details as of August 31, 2001 at proposed revenue levels. As can be seen in PGW Statement No. 4, page 8, the Residential GS customer class, on a per unit basis is $39.94. Page 8 also shows the Commercial GS per unit charge at $106.41 and the Industrial GS per unit charge at $280.85.

Q. IS THE COMPANY PROPOSING $39.94 AS THE RESIDENTIAL GS CUSTOMER CHARGE PER MONTH?

A. No. As I stated above, the Company is proposing a customer charge for the Residential customer class of $15.00 per month. The $15.00 per month proposal was based on the current level of customer charges in effect by other Pennsylvania natural gas utilities (See Company's Statement No. 9, page 6) and it was based upon the Company's needed to receive a more fixed level of revenues each month.

OTS Position

Q. DO YOU AGREE WITH THE COMPANY'S RATIONALE FOR INCREASING THEIR CURRENT CUSTOMER CHARGE?

A. Yes. The Company's current customer charges for the Residential GS, Commercial GS, and Industrial GS need to be updated to match the current industry customer charge levels and permit the Company to receive a sufficient level of revenues per month.

Q. DO YOU AGREE WITH THE RATE LEVEL PROPOSED BY THE COMPANY FOR THE CUSTOMER CHARGES?

A. No. In my opinion, the Company's proposed $15 customer charge for the Residential GS customers violates gradualism rules for rate design.

Although the Company's cost study shows the customer charge for Residential GS customers could be higher, an 87.5% increase in the customer charge is too great.

Q. MR. METRO, DID YOU PERFORM A CUSTOMER CHARGE STUDY FOR THE RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL SERVICE CLASS?

A. Yes. OTS Exhibit No. 2, Schedule 5, shows a customer charge study that I performed for the Residential, Commercial, and Industrial customer classes. This is similar to the customer charge study performed by the Company in PGW Statement No. 4, page 8. However, I updated the PGW study to include the last two base rate filings approved by the Commission (TW Phillips and Penn Fuels/North Penn). In addition, I calculated the average customer charge, the high charge and the most recent customer charge for seven of the largest natural gas utilities in the state. I used Columbia Gas of Pennsylvania, Equitable Gas, National Fuel Gas Distribution, PECO Gas, Peoples Natural Gas Company, TW Phillips, and Penn Fuels/North Penn Gas Company.

Q. WHAT WERE THE RESULTS OF YOUR CUSTOMER CHARGE STUDY?

A. As can be seen in OTS Exhibit No. 3, Schedule 5, the average Residential customer charge is $10.35 per month. The average Commercial customer charge is $16.79 per month. The average Industrial customer charge is $59.40. I would note that the averages that I calculated for the Commercial and Industrial classes are estimates. Each utility that I used as a sample utilized different usage amounts for Commercial and Industrial customers. I had to mix and match customer charges with volumes. For example, Columbia defines Commercial customers as those whose annual usage is between 600 and 6,000 Mcf. Peoples defines Commercial customers as those whose annual usage is from 0-500 Mcf and through 500-1,000 Mcf. Therefore, the numbers that I show for averages are my best attempt to group the customer charges of the seven utilities.

Q. WHAT OTHER RESULTS ARE SHOWN ON SCHEDULE 5?

A. I separated the high customer charges for each customer class. I also depicted the customer charges for the most recent natural gas base rate filings for which the Commission issued an Order. The Commission most recently issued an Order on the TW Phillips and Penn Fuel/North Penn rate cases.

Q. WHAT IS YOUR RECOMMEDATION FOR CUSTOMER CHARGES?

A. I recommend that the Residential customer charge be set at $12. I recommend the Commercial customer charge be set at $18. I recommend allowing the Company's proposed customer charge for Industrials of $50.

Q. WHAT IS THE BASIS FOR YOUR CUSTOMER CHARGE RECOMMENDATION FOR THE RESIDENTIAL AND COMMERCIAL CUSTOMER CLASSES?

A. I base my customer charge recommendation on gradualism, other utility customer charges, and on the Company's proposed cost of service study. In my opinion, the Company's proposed increases to the Residential and Commercial customer charges violated the rate design principle of gradualism. I define gradualism as the process of implementing rates over a period of time in order to mitigate rate shock to various customer classes. I derived the OTS proposed $12 Residential customer charge by analyzing the customer charge of Equitable Gas Company (Equitable). Part of Equitable's service territory includes the city of Pittsburgh. This is a comparable city with Philadelphia. Equitable's Residential customer charge is $11.65. I rounded the $11.65 to $12.00 in my recommendation for PGW.

I derived the OTS proposed Commercial customer charge of $18.00 by comparing it to the average customer charge for Commercial customers ($16.79) and by comparing the most recent Commercial customer charge approved by the Commission ($18.00).

Q. MR. METRO, HAVE YOU CALCULATED THE REVENUE AFFECT OF YOUR PROPOSED CUSTOMER CHARGES?

A. Yes. OTS Exhibit No. 3, Schedule 6, shows the OTS proposed customer charges at the Company's proposed revenue increase of $65 million. OTS Exhibit No. 3, Schedule 7, shows the OTS proposed customer charges with the revised customer numbers and sales as proposed by OTS witness Mr. Kubas.

Issue 4 – Tariff Issues

Q. MR. METRO, WHAT TARIFF ISSUES WILL YOU ADDRESS?

A. I will address the following tariff issues: (1) PGW tariff needs to have tariff language that defines the curtailment rules and priority of service; (2) PGW's NGV tariff should be eliminated; (3) PGW provides interruptible service to apartment complexes that may not have alternate fuel; (4) PGW's transportation tariff does not comply with the Commission's Transportation Regulations (5) PGW does not meter read all of its customers on a timely

basis; (6) PGW's tariff provides for the inclusion of electricity costs within the purchased gas cost calculations.

(1) Priority of Service and Curtailment Rules

Company Position

Q. DOES THE COMPANY'S TARIFF LIST THE PRIORITY OF SERVICE AND CURTAILMENT PRIORITY?

A. No. However, the Company's avers that it maintains a Curtailment Plan as part of its Emergency Plan that is retained by the PGW Distribution Department (See OTS Exhibit No. 3, Schedule 5, PGW's response to OTS-TRF-10). Historically PGW was not required by the Philadelphia Gas Commission to list the curtailment priority by customer class (Ibid.).

OTS Position

Q. MR. METRO, WHAT IS YOUR CONCERN WITH THE LACK OF TARIFF LANGUAGE RELATING TO DEFINING PRIORITY OF SERVICE AND CURTAILMENT PROCEDURES?

A. The Pennsylvania Public Utility Commission (Commission) has adopted Policy Statements and Guidelines relating to priority of service and curtailment of retail ratepayers, See Title 52, Chapter 69.21. These rules were adopted for the protection of the Company's ratepayers. Priority of

service rules and curtailment rules must be established and included within the tariff to inform the customers about emergency procedures so that customers know and expect to be curtailed during emergency situations.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend that the Company submit tariff language establishing the rules and regulations relating to priority of service and curtailment procedures. Included within the proposed tariff language should be a listing of priority categories for interruption.

(2) Compressed Natural Gas (CNG) Fueling and Rate NGVS – Developmental Natural Gas Vehicle Service

Company Position

Q. DOES THE COMPANY SELL COMPRESSED NATURAL GAS AND UNCOMPRESSED NATURAL GAS FOR VEHICLE SERVICE?

A. Yes. The Company sells CNG under the General Service –Rate GS and Municipal Service – Rate MS rate schedules. In addition, PGW has a separate tariffed rate schedule – Rate NGVS that sells uncompressed natural gas. The Company avers that there are no other companies offering CNG service in the Philadelphia area. PGW provides this service as a convenience while customers are familiarizing themselves with this

technology. The Company avers that its preference is for customers to build their own pumping facilities and receive gas service under other rate schedules (See OTS Exhibit No. 3, Schedule 6 – PGW's response to OTS-TRF-15).

OTS Position

Q. MR. METRO WHAT IS YOUR POSITION RELATING TO CNG *SERVICE AND RATE NGVS?*

A. In my opinion, CNG service and Rate NGVS should be services that are removed from rate. PGW should not be competing in the CNG market and in the natural gas fueling market. PGW has an advantage in that they are regulated and thus can offset revenue losses from this service through ratepayer rates. In addition, the projected revenues for the Rate NGVS do not equal the costs allocated to it under the Company's cost of service study. PGW is not recovering their costs associated with this service, they should not provide the service.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend that the revenues and costs associated with CNG service and Rate NGVS be removed from this filing.

(3) Multi-Family Structures and Alternate Fuel Capability

Q. DOES THE COMPANY OFFER RATE SCHEDULE LBS-S- LOAD BALANCING SERVICE-SMALL VOLUME AND RATE SCHEDULE *LBS-L – LOAD BALANCING SERVICE LARGE* VOLUME TO MULTI-FAMILY RESIDENTIAL BUILDINGS?

A. Yes. Rate Schedule LBS-S and LBS-L are available to multi-family residential buildings for seasonal gas use. This is an interruptible natural gas service. Customers under this rate schedule are required to have alternate fuel capability.

Q. HAS THE COMPANY VERIFIED THE DUEL FUEL CAPABILITIES OF EACH CUSTOMER?

A. No. See OTS Exhibit No. 3, Schedule 7, PGW's response to OTS-TRF-26 and 28.

OTS Position

Q. MR. METRO, WHAT IS YOUR POSITION RELATING TO LBS-S AND LBS-L?

A. I recommend that the Company verify the dual fuel capability of all customers taking service under Rate Schedules LBS-S and LBS-L. This verification should take place before next winter heating season. PGW

should submit a report to the Commission stating that it has verified the duel fuel capability of the customers taking service under these rate schedules. The LBS-S and LBS-L customers should not be interruptible, since they are serving residential customers, unless they have installed and verified duel fuel capability.

(4) Transportation Regulations

Q. MR. METRO, DOES PGW OFFER TRANSPORTATION SERVICE?

A. Yes. PGW offers transportation service under Rate Schedule GTS. The Company avers that it will provide transportation service within its service territory as an agent for the individual customer or for a buyer group of no more than three individual customers who contracts for transportation and delivery service by the Company of a least 75,000 Mcf of gas per year (See OTS Exhibit No. 3, Schedule 8, PGW's response to OTS-TRF-30).

Q. DOES PGW'S RATE SCHEDULE GTS TARIFF COMPLY WITH THE COMMISSION'S TRANSPORTATION REGULATIONS?

A. Not in my opinion. Rate Schedule GTS does not comply with the Commission's Transportation Regulations as they relate to Section 60.2 (Natural Gas Transportation Service Terms and Objectives) and Section 60.3(Eligibility for Natural Gas Transportation Service). These sections

reference the size of the members of the buyer group and in the amount of transportation gas required per year.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend that PGW make a filing within 6 months of the Commission' Order in this proceeding that corrects the tariff language of Rate Schedule GTS to comply with the Commission's Transportation Regulations.

(5) Meter Reading

Q. MR. METRO, DOES PGW HAVE REMOTE METER READING CAPABILITY FOR ITS RESIDENTIAL CUSTOMERS?

A. Yes. The Company has approximately 530,000 residential customers. As of March 1, 2001, PGW has installed 507,631 AMR devices. This equates to 95.7% of the total residential customers. The Company avers that it read all AMR equipped meters every month. The Company attempts to obtain an actual meter reading for all non-AMR customers at least every six months (See OTS Exhibit No. 3, Schedule 12, PGW's response to OTS-TRF-2).

Q. WHAT IS YOUR CONCERN RELATING TO METER READING?

A. There are two complaints filed by PGW's customers that relate to meter reading (See OTS Exhibit No. 3, Schedule 13). These customers complain that PGW only reads their meter every six months. As can be seen in OTS Exhibit No. 3, Schedule 12, PGW admits that it reads the non-AMR devices every six months. The Commission's Regulations at Title 52 Chapter 56.12.state that a natural gas utility must perform an actual meter read at least every other month.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend that PGW implement a meter reading procedure for the non-AMR devices that follow the Commission's meter reading Regulations at 56.12. I also recommend that PGW notify the Commission when all of its Residential customers are placed on AMR devices.

(6) Electric Costs in the GCR

Purchased Electric Expense

Q. WHAT IS YOUR ISSUE RELATING TO PURCHASED ELECTRIC EXPENSE?

A. PGW includes in the Total Applicable Fuel Expense in its GCR approximately $965,000 for purchased electric. The purchased electric costs represent the electrical usage by the plants and buildings of the

Company. In addition, Tariff, Section 11, permits the recovery of this expense in the GCR.

Q. DO YOU AGREE WITH PGW THAT TOTAL APPLICABLE FUEL EXPENSES SHOULD INCLUDE PURCHASED ELECTRIC?

A. No. Purchased Electric Expense should be removed from the fuel cost and properly included in the Company's O&M claim in base rates. Purchased Electric Expense is not a natural gas cost. It has been the OTS position throughout the years that the 1307(f) only include natural gas costs.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend that the Purchased Electric Expense of approximately $965,000 be removed from the Total Applicable Fuel Expense and placed into O&M expenses.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

APPENDIX A

Professional and Educational Experience
of
Paul J. Metro

Education

The Pennsylvania State University, University Park, Bachelor of Science, Mineral Economics, 1982

Earned additional credits in Industrial Engineering from 1982-1984, The Pennsylvania State University, University Park

The Pennsylvania State University, Capitol Campus, Master of Engineering Science, Industrial Engineering/Operations Research Emphasis, 1992.

Professional Experience

April 1996 to Present: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer in the Office of Trial Staff - Participates in the review and prosecution of gas, electric, telecommunications, water, and sewer rate filings in the areas of valuation, depreciation, rate base, rate structure, and purchased gas.

March 1994 to March 1996: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Rate Structure/Engineering Section, Energy Division, Office of Trial Staff. Participates in the review and prosecution of natural gas and electric rate filings in the areas of valuation, depreciation, rate base, rate structure, and purchased gas.

December 1987 to March 1994: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Engineering Section, Engineering and Rate Design Division, Office of Trial Staff. Participates in the review and prosecution of gas, electric, telecommunications, water, and sewer rate filings in the areas of valuation, depreciation, rate base, rate structure, and purchased gas.

September 1986 to December 1987: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Engineering Section, Rate Design Division, Office of Trial Staff. Participated in the review and prosecution of gas, electric, telecommunications, and water rate filings in the areas of cost of service and tariff rules and regulations.

May 1985 to September 1986: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Valuation Section, Gas Division, Bureau of Rates. Participated in the review and prosecution of gas rate filings in the areas of valuation, depreciation, rate structure, purchased gas, and cost of service.

Professional Affiliations

Engineers Society of Pennsylvania

Testimony Presented Before The Pennsylvania Public Utility Commission

Equitable Gas Company, Transportation Investigation, R-870666

UGI Corporation - Gas Division, Transportation Investigation, R-870665

National Fuel Gas Distribution Corporation, General Rate Case, R-870719

Equitable Gas Company, 1307(f) Proceeding, R-880932

Pennsylvania Gas & Water Company, 1307(f) Proceeding, R-880958

Equitable Gas - Energy Company, General Rate Case, R-880941

Equitable Gas Company, General Rate Case, R-880971

Equitable Gas Company, 1307(f) Proceeding, R-891238

Lake Latonka Water Company, General Rate Case, R-891257

Philadelphia Electric Company, General Rate Case, R-891364

Equitable Gas Company, 1307(f) Proceeding, R-901645

Roaring Creek Water Company, General Rate Case, R-901625

Equitable Gas Company, General Rate Case, R-901595

West Penn Power Company, General Rate Case, R-901609

Pennsylvania Gas & Water Company, 1307(f) Proceeding, R-901699

Western Utilities, Inc., General Rate Case, A-210017

T.W. Phillips Gas & Oil Co., 1307(f) Proceeding, R-911889

Columbia Gas of Pennsylvania, Inc., General Rate Case, R-901873

Columbia Gas of Pennsylvania, Inc., 1307(f) Proceeding, R-911921

Pennsylvania Gas & Water Company, 1307(f) Remand Proceeding, R-901699

Olwen Heights Water Company, General Rate Case, R-891226

Peoples Natural Gas Company, General Rate Case, R-922180

Pennsylvania Gas & Water Company, Transportation Tariff Filing, R-922169

Pennsylvania Gas & Water Company, 1307(f) Filing, R-922324

West Penn Power, General Rate Case, R-922378

Peoples Natural Gas Company, 1307(f) Filing, R-932598

Equitable Gas Company, 1307(f) Filing, R-932599

National Fuel Gas Distribution Company, General Rate Case, R-932548

Pennsylvania Gas & Water Company, Transportation Tariff Filing, R-932655

Allied Gas Company ET AL, Transportation Tariff Filing, R-932662

Peoples Natural Gas Company, General Rate Case, R-932866, R-932915

Peoples Natural Gas Company, 1307(f) Filing, R-943028

Columbia Gas of Pennsylvania, 1307(f) Filing, R-943029

Equitable Gas Company, 1307(f) Filing, R-943022

Pennsylvania Gas & Water Company, Tariff Filing, R-943078

Pennsylvania Power & Light Company, General Rate Case, R-943271

Equitable Gas Company, Transportation Filing, R-943272

UGI Utilities, Inc., General Rate Case, R-953297

Equitable Gas Company, 1307(f) Filing, R-953320

National Fuel Gas Distribution Corporation, 1307(f), R-953487

Equitable Gas Company, 1307(f) Filing, R-963576

PFG Gas, Inc. and North Penn Gas Co., General Rate Case, R-963524

PECO Energy Company, Electric Securitization Filing, R-973877

PECO Energy Company, Restructuring, R-973953

Peoples Natural Gas Company, 1307(f) Filing, R-973896

Equitable Gas Company, General Rate Case, R-963858

West Penn Power Company, Restructuring, R-973981

Duquesne Light Company, Restructuring, R-974104

DQE, Inc., Allegheny Power, System, Inc. And AYP Sub, Inc., Merger, A-110150F0015

Metropolitan Edison Company, Restructuring, R-974008

Pennsylvania Electric Company, Restructuring, R-974009

Pennsylvania Power Company, Restructuring, R-974149

The Peoples Natural Gas Company, 1307(f), R-984281/A-122250

PG Energy, General Rate Case, R-984280

Bell/GTE Merger, A-310200

Peoples Natural Gas Company, 1307(f), R-994600

Pittsburgh Thermal, LTD, Base Rate Case, R-994641

Peoples Natural Gas Company, Restructuring, R-994782

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